



County Borough of Derby.

ANNUAL REPORTS

OF THE

MEDICAL OFFICER OF HEALTH

AND

CHIEF SCHOOL MEDICAL OFFICER

FOR THE

YEAR 1930,

BY

GORDON LILICO, M.B., Ch.B., D.P.H.

DERBY:

J. W. SIMPSON AND SONS, LTD., PRINTERS, FRIAR GATE



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County Borough of Derby.

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Deputy-Chairman—COUNCILLOR MRS. JONES, J.P.

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Junior Deputy-Chairman—COUNCILLOR MARSDEN.

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E. READER, Vaccination Officer.

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*G. E. POOL, F.I.C., Sewage Works Analyst.

W. C. HANSON, Sewage Works Laboratory Assistant.

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(Qualifications of those marked (a) C.M.B. H.V., and Nursing Certificates ; (b) C.M.B. and Nursing Certificates).

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W. H. WRAY, L.R.C.P., L.R.C.S., L.R.F.P.S., Tuberculosis Medical Officer and Deputy Medical Officer of Health.

C. PARRINGTON, C.M.B. and Nursing Certificates, Tuberculosis Nurse.

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ALEXANDER MORRISON, L.R.C.P. & S.(Ed.), L.R.F.P.S. (Glas.), School Medical Officer.

*EDWARD COLLIER GREEN, L.R.C.P., M.R.C.S., L.S.A., O.B.E., School Oculist.

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(Qualifications of those marked (a) C.M.B., Children's Nursing Certificates, General Training Certificates ; (b) C.M.B. and General Training Certificates ; (c) Children's Training and H.V.'s Certificates ; (d) General Training Certificate).

W. LONNON, WINIFRED E. BURROWS, WINIFRED GREGORY, F. E. OAKBS, HELEN HARWOOD, K. E. BRATBY, ALICE GLENN, MARY WIBBERLEY, Clerks.

HANNAH C. JOHNSON, JANE S. REES, Assistants at Inspections.

LILIAN SHEPHERD, WINIFRED TAYLOR, Dental Assistants.

EDITH HOLME, Caretaker (Central Clinic premises).

R. J. O. TAYLOR, M.B., Ch.B., D.P.H., Resident Medical Supt. Borough Isolation Hospital and Sanatorium.

C. A. DELANEY, Matron ; B. DEARTH, Deputy Matron ; Sisters (5), Nurses (31), Domestic Staff (26).

E. ROE, P. SMITH, Laboratory Assistants.

Lodge Keeper, Joiner and Gardeners, etc.

R. G. COOKE, M.D., Ch.B., M.R.C.S., L.R.C.P., Resident Medical Superintendent City Hospital.

D. GAMSU, M.D., B.S., M.R.C.S., L.R.C.P., Assistant Medical Officer.

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E. A. ADAMS, E. M. NEWTON (Masseuses).

Mortuary Attendant, Ambulance Driver, Porters, Gardeners, etc.

*H. R. MORGAN RICHARDS, M.B., Ch.B., Venereal Disease Medical Officer (employed by Derbyshire Royal Infirmary).

*LUCY M. ELSOM, M.R.C.S., L.R.C.P. (No. 1 District).

*J. W. KING, M.B., B.S. (No. 2 District).

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*C. F. DRUITT, M.R.C.S., L.R.C.P. (No. 6 District).

District Medical Officers under the Poor Law Acts.

*LUCY M. ELSOM, M.R.C.S., L.R.C.P. (No. 1 District).

*J. W. KING, M.B., B.S. (Nos. 2 and 3 Districts).

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*C. F. DRUITT, M.R.C.S., L.R.C.P. (No. 6 District).

Public Vaccinators.

Dr. A. E. Brindley, formerly Medical Officer of Health, retired on Superannuation, 31st March, 1930.

Mr. F. W. Ford, formerly Chief Sanitary Inspector, retired on Superannuation, 5th March, 1930.

* *Part-time Officers.*

PUBLIC HEALTH DEPARTMENT,
FORD STREET,
DERBY,

April, 1931.

*TO THE CHAIRMAN AND MEMBERS OF THE HEALTH
AND EDUCATION COMMITTEES OF THE COUNTY
BOROUGH OF DERBY.*

MR. ALDERMAN SLANEY, MR. ALDERMAN WILKINS, LADIES AND
GENTLEMEN,

I have the honour to present my Annual Report on the health conditions of the town as found during the year 1930, and, in addition, show what progress, if any, has taken place in any of the services comprised by the Health Department during the preceding five years.

The form of the Report is considerably altered. The first part is made up of a commentary on various parts of the Service, and follows the sequence as suggested by the Ministry of Health's Circular. Detailed matter and statistics follow in separate sections, and for these the officers in charge of the various departments have been made responsible. The increased length of the Report is more apparent than real, and is almost entirely due to the inclusion of the school Report within its pages.

Statistics and Social Conditions of the Area.

Prior to 1928 the area of the Borough was 5,272 acres, but on the 1st April of that year an extension of the boundaries brought a further 1,865 acres within the area, bringing the total acreage up to 7,137 acres. The extension also brought an additional 8,441 persons within the boundaries, and the Registrar General's estimate of the population for 1929 was 140,700. In view of the fact that a census is to take place during 1931, no estimate will be made this year, and we are asked to accept the previous year's figures and use them as the basis for our statistics.

Derby is essentially an industrial town, and the skilled artisan class predominates in its population. Owing to the large and varied types of industry within its confines, Derby has been fortunate in having relatively few unemployed during these years of depression, although the figures have become more disconcerting during the past year owing to difficulties in the railway world.

Improved trade means more money in the possession of the worker, and settled conditions are more likely to conduce to increased marriages. The absence of these may account for the decrease in the number of marriages. They may also, in some measure, be partly responsible for the decreased birth rate—but not by any means the only reason.

It has been the custom to accept all the births taking place in the town as our own, but where any of the infants or mothers, who came into our institutions for that short period, died, their deaths were transferred to the localities from which they came in the first place. This is rather like having our bread with jam on both sides, and as the error of our ways has been brought to our notice by the Ministry, the necessary corrections have been made in this year's figures. Although there was a slight increase in the gross number of births, 329 have been transferred to other areas, and thus our rate has taken a big drop from 19·05 to 17·1.

A really bright spot in the Report is the significant fact that the death rate has been reduced from 13·5 to 11·3. The most favoured ages have been the extremes of life. Children of school age, who ought to be the healthiest members of society, have had a rough time, principally due to diphtheria and accidents. Further details of the rates and causes are given later in the Report.

There is in the town an adequacy of space for burial purposes, and likely to be for some years to come. While on the subject of burials, one must note that there is an increasing number of people who desire their bodies to be cremated. For the most part such cases are removed to Nottingham or Leicester, or even farther afield, for that purpose. I would commend the Council to seriously consider the question of providing such facilities locally. Cremation is not a passing phase, but has come to stay. At present it is an

expensive method owing to the distance from the various crematoria, but if a person considers that the advantages of cremation largely outweigh its disadvantages, and I personally feel strongly that such is the case, then the Local Authority should be prepared to consider the institution of such facilities.

GENERAL PROVISION OF HEALTH SERVICES IN THE AREA.

(1) **Public Health Officers of the Authority.** The principal change in the staff *personnel* was the retirement during the year of Dr. Brindley, who had served the town well for a considerable number of years. Such a break is felt by everybody concerned, but Dr. Brindley may rest assured that all his spade-work and innovations have left their mark, and will be appreciated by his successors for many years to come. We wish him peace and good health in his well-earned retirement.

An additional appointment—that of third Medical Officer at the City Hospital—was made during the year. By this appointment it is hoped to provide the necessary holiday and other reliefs of the medical staff.

The position of female sanitary inspector, which became vacant during the year, was not filled, as it was decided that there was not sufficient suitable work for one woman.

(2) **Nursing in the Home.** The Local Authority have an arrangement with the Nightingale Home for the provision of nurses in cases of puerperal pyrexia and also in primary and secondary pneumonias.

(3) **Midwives.** During the year 85 midwives gave notice of intention to practise, and of these all but four were certified women. With the exception of twenty-four, who are engaged in private practice, the remaining midwives are attached to institutions. No midwives are employed by the Corporation for district work, and no subsidy is paid to those in private practice.

When one considers that the largest number of cases attended by one woman in private practice only amounted to 119 cases, and assuming that 25/- was received per case, the possibility of an income of £150 per annum with the worry attached to maternity

cases is not likely to encourage the best type of nurse to adopt this as a profession.

(4) **National Health Insurance.** We are not aware of any important points in which the work of the Local Authority is related to or is administered in co-operation with that service.

(5) **Poor Law Medical Out-Relief.** Details of these services are given later in the Report. No change has been made up to the present in the administration of these services since the transfer from the Board of Guardians to the Local Authority.

(6) **Laboratory Facilities.** So far as the Local Authority are concerned, use is made of four different sets of laboratories. In the first place we have a small laboratory of our own at the Isolation Hospital, which is used principally for swabs and sputa from the clinics, the hospitals and the general practitioners. For the more complicated work, such as virulence tests, Wassermann re-actions and guinea pig tests, we have neither the time nor the facilities, and such specimens are sent to the Derbyshire County Laboratory.

Analytical work in connection with food and drugs is carried out by Mr. White, who is also the County Analyst, and, finally, the bacteriological work for the sewage works at Spondon is undertaken by the Borough Surveyor's Department.

In addition to all these, the various hospitals in town do a certain amount of pathological work, both for themselves and for private practitioners, and other material is sent to various places outside the town.

All this seems to me to suggest overlapping and want of co-ordination, and I could suggest that the Local Authority consider the question of getting into touch with the other institutions with the object of developing an up-to-date central laboratory.

(7) **Legislation in force** relating to the health services is given in the report.

(8). **Hospitals.** A large amount of detailed information relating to staff, beds and the type of cases admitted is included under a later section of the Report.

Derby supplies the wants of a large area in respect of hospital requirements, and there are naturally times when it is difficult to obtain accommodation. The general tendency now-a-days is to treat illness in an institution, and people are beginning to realise that the advantages, both nursing and domestic, to be obtained at an institution outweigh anything that can be given in the home. As a result of this, most of the institutions can show the necessity for more beds, and at the end of the year the Children's Hospital had made a start with its building programme.

So far as our own institutions go, a commencement has been made in the enlargement of the Isolation Hospital and Sanatorium, and an early start may be made to ease somewhat the overcrowding at the Mental Hospital.

The City Hospital typifies the demand of the public for more bed accommodation. Little more than twelve months ago all the sick poor were kept in the wards at Boundary House. In spite of the erection of a building of 300 beds, both the new hospital and Boundary House will be filled. The bed accommodation at the City Hospital can be roughly divided into four classes.

(a) General Ward—200 beds. These contain both medical and surgical cases. The majority of the medical cases are either observation mental cases or aged and infirm. The latter are the class of patient who are not sick, but only require to be suitably fed and cleansed, and, if room were available, should be in Boundary House.

(b) Children—60 beds. These wards are in sections in order to allow of classification of cases in a limited space and reduction of the possible spread of infectious diseases.

(c) Tuberculosis.—Two wards of about twenty beds each were provided on the top floor for tuberculosis cases. Unfortunately, inadequate provision for the housing of the nursing staff was made when the hospital was erected, and in consequence the female ward has been utilized for nurses, and will continue to be so used until the nurses' home has been erected.

(d) Maternity Block—16 beds. This single-storied building has been placed at the extreme end of the hospital, and patients may

be admitted by a separate entrance. It consists of an " eight bed " general ward, side rooms with one or two beds, and a labour ward. It is unfortunate that more accommodation was not provided at the time of building. As it is, cases showing rise of temperature or septic cases admitted must of necessity be housed in one of the side wards attached to the general hospital wards. No provision has been made for ante-natal work, and it may be necessary to utilise the female receiving ward, unsatisfactory though it may be, until such time as an addition is made to the maternity block for ante-natal purposes.

Good facilities are provided for operative work, X-rays, artificial light and massage work. A dental theatre is provided, and it is hoped to increase the scope of this to maternal and tuberculosis patients at a later stage

After the introduction of the Local Government Act, the Hospital was under the authority of the Public Assistance Committee, but was managed by a joint committee made up of members from the Health and Public Assistance Committees. Unfortunate differences of opinion took place between the two committees, and at the end of the year the Health Committee asked that the Hospital be appropriated and worked under the Public Health Acts. It is unfortunate that these differences between committees have occurred, but it will be more unfortunate if they are allowed to continue, as mountains will be made out of small matters, and the people for whom the two institutions were provided will only be considered as pawns in the game.

Personally, I think that the common sense of the members, with a little give and take, will soon put matters on an improved basis.

As regards the voluntary hospitals generally, no system of co-operation has been proposed between them and the Local Authority, but some satisfactory understanding must be reached in the near future.

Isolation Hospital. It is interesting to find from Dr. Taylor's report that the Committee have realised the necessity for improvements at the Hospital, and, moreover, that they have brought a

large number of them into being during the last five years. Considerable structural additions were approved before the end of the year, particularly in regard to the construction of nurses' quarters and cubicle block accommodation. Both of these are urgently required, and their completion will be of great advantage to the town. On more than one occasion during the past year cases of mixed infection have been refused admission, as it was impossible to find cubicle accommodation for them. Such cases should always be treated in hospital, if possible.

Dr. Taylor has been in the habit of treating selected Scarlet Fever cases with antitoxin, and his results have quite justified the additional expense.

The report on Diphtheria is most disappointing to read. It is sad to think that so many young lives are either lost or seriously crippled when suitable means are available to prevent these calamities. Schick testing and immunisation is available without cost to the community, and further remarks are made on this subject in Dr. Haigh's report on infectious diseases. I would, however, stress this point. If it is possible to immunise children in the Railway Orphanage Homes, which used at one time to crowd out our hospital, but now have no cases, and also prevent disease among our nurses who are exposed to large doses of infection, it is surely up to the parents of Derby to safeguard their own children.

While on the subject of hospitals, it would be appropriate to record the scheme on the training of nurses which was introduced by the Chairman of the Health Committee (Alderman Slaney) and approved by the Council last year. It is considered that the difficulties in obtaining a sufficient supply of nurses is largely due to the fact that two or three years must elapse between the age at which girls leave school and the time they can be admitted as probationer nurses. The majority of girls cannot afford to remain at home during that period, and consequently commence to learn some trade or profession. Two years of such experience gives them time to appreciate their new job, and by the time they are eighteen or nineteen they begin to doubt the wisdom of commencing a new life with probably less freedom and usually less pay. With the number of new trades now open to women, it is not surprising that

a lower paid and more arduous profession is likely to be neglected. On this assumption the Derby Scheme makes it possible for a specified number of girls to enrol at one of the Corporation Hospitals as sub-probationers for the following course of training :—

- (1) Four months. Practical training in the preparation of food for patients and the quantities allowed according to patients' requirements.
- (2) Four months. Practical training in the Laundry to obtain experience in the treatment of bed-clothing, etc.
- (3) Four months. Practical training in the Laboratory on how to make tests and avoid infection.
- (4) Training in Sanatorium—looking after children, bathing, etc.
- (5) Working with senior sister in bringing patients to Hospital by ambulance—to gain experience regarding the method required for handling patients.

The salary is £26 for the first year, rising to £28 in the second. During the first years the girls live at their own homes, but in the second year they may be required to live in the Hospital.

In addition to this practical training, they also attend some of the primary lectures. The above-mentioned course applies to the Isolation Hospital and Sanatorium, and a somewhat similar course is being prepared for the City Hospital.

It is proposed at a later stage to arrange for an interchange of nurses for training between the City Hospital and the Isolation Hospital. As regards senior nurses who have obtained their Central Midwives Board Certificate, an assisted scheme for training for the Health Visitors Certificate is available.

In a nutshell, it is hoped by this scheme that we shall be able to have a constant supply of suitable probationers, and that they in turn will have every opportunity of eventually becoming Health Visitors.

So far as it is possible to judge on results up to the present, the working is proving a success, as we are having a very good type of

girl coming forward as sub-probationer, and, at the other end of the scale, one nurse is at present receiving her Health Visitor's training.

(9) **Maternity and Nursing Homes.** During the year, one new home was registered and one of the existing homes was removed from the register at the request of the keeper.

(10) **MATERNITY AND CHILD WELFARE.**

The Maternity and Child Welfare Section, under Dr. McKail, has been endeavouring to carry on under somewhat difficult circumstances. The two principal obstacles are the distances from the homes to the Child Welfare Centres and the inadequacy of the centres themselves. During the last five years a number of new housing estates have been opened up in various parts of the town, and to these many of the parents have emigrated from the poorer districts. That is all to the good, but it has made it more difficult to provide centres for these people in the immediate vicinity. The present centres are all held in buildings such as mission halls and the like, and the facilities provided are rough and ready at the best. One cannot be expected to make a satisfactory examination of a child in a continuous noise, and a mother will think twice before undressing her baby in a cold room.

A scheme is on foot for the provision of a number of new schools in Derby, and it is the intention to attach to these proper premises which will be available for both the school medical and the child welfare services. It is hoped that early in the new year one such set of premises will be available, and under such conditions it is anticipated that the general attendances will materially increase.

A point worthy of note in connection with the child welfare figures supplied by Dr. McKail is the large number of infants who are being artificially fed. No fewer than 283 out of 1,135 infants who attended the centres for the first time during the year were on artificial feeding. This figure is a growing one, and is to be regretted. It may be a sign of the times that the mother of to-day finds it irksome to feed her baby, or that she is more tied to the house than she would be if the baby could be left at home with a prepared

feed to be given by some other member of the household. The fact remains that in the great majority of cases it is not in the best interests of the baby that its natural food should be replaced by something made up, no matter how excellent its qualities may be.

During the year it was decided to introduce sterile maternity sets and retail these at cost price to expectant mothers. The sets, of which there are two varieties (made up by Southall, Birmingham), contain most of the essentials required at confinement. Unfortunately, up to the end of the year, very few sets were purchased, probably on account of the prevalent shortage of money.

The year has been noteworthy for a marked fall in the number of maternal deaths. The subject of maternal mortality is one which is at present receiving a considerable amount of attention, both in the Press and from the platform, and any innovation which is likely to bring a reduction in these unfortunate cases is worthy of attention. A very significant point, to my mind, and one which is frequently neglected, is the condition of the patient's mouth. On one of the death certificates of a Derby case, one of the causes mentioned was "septic mouth." We sometimes find that a perfectly straightforward case which has not been subject to any physical or manipulative interference develops a septicæmia. The infection obtains an entrance into the blood stream from some source, and why not the mouth? The ordinary healthy mouth and nose are storehouses of micro-organisms, and how much more so must that obtain when there are carious teeth, inflamed tonsils and gums oozing with putrid matter.

At the present time the Local Authority provide dental treatment for expectant mothers, but this is practically confined to extractions. Such extractions will certainly produce a clean mouth, but the woman wants to know what she will use for chewing when her teeth are gone.

The Local Authority do not provide or assist to provide dentures, and so the woman who is unable to make such provision herself promptly says that she'll retain the stumps she possesses and risk it. Now that the City Hospital is under the control of the Local Authority and up-to-date facilities are provided for dental treat-

ment, the Committee concerned would be well advised to re-consider the question of the provision of dentures to expectant mothers.

Other matters concerned with maternal mortality and institutional treatment will be dealt with under the City Hospital report. Since the last five-yearly report the system of home helps was introduced by my predecessor, Dr. Brindley, and reference is made to its progress in Dr. McKail's report. Such a service is essential, and as it becomes more widely known it will be more fully utilised. The administrative difficulty in such a service is the keeping of an adequate register of home helps. There are plenty of very suitable women who would be only too glad to take on the work, but, unfortunately, we cannot guarantee full-time work, with the result that when other work, such as housekeeping, etc., offers itself, they have to be deleted from our list. At present the home help system is confined to maternity cases, but there are large numbers of cases where it could be suitably used. Any household where no domestic is employed and there are a number of small children will find themselves in an awkward predicament when the mother has to take to bed, no matter what the cause may be. The service provided by the Local Authority is not an expensive one, each case being charged at a fixed scale according to income and family, and it is worthy of greater support.

The subject of birth control is rapidly becoming a popular subject for debate, and will, I think, ultimately die a natural death. It is a very broad subject if it is to be properly understood, because it deals with all types of civilisation—black, white, and yellow; it raises big religious questions, and it is excused on medical grounds. It is a subject too big for discussion in an annual report, and I will limit my remarks to two observations. Firstly, I do not believe that there are any married couples in this country of which one partner at least is unaware of the means to prevent conception if it is desired. The desirability, the trouble it necessitates, or the expense incurred is beside the point. Secondly, I do not think that the term birth control conveys the same meaning to all minds. I would go further, and say that to the majority birth control means bringing conception to an end rather than the prevention of conception, or, to put the matter more bluntly, legalising the abortionist.

The ante-natal clinic is proving to be a live factor in the maternity scheme, as is evidenced by the increasing number of women who avail themselves of its benefits year by year. It may be said that in spite of this clinic we are still getting a large maternal mortality. This is true, but it must be remembered that only a small percentage of the expectant mothers attend the clinic, and amongst those many conditions are found which, were they not righted at the time, would end in a complicated or even fatal labour. To prevent only one such calamity in a year would justify the expense entailed by the ante-natal clinic.

Another innovation during the last five years has been the inauguration of the toddlers clinic. This is referred to later in the report by Dr. Haigh, who is in charge. By this means we are forming a direct link between the child welfare and the school medical service. The object is to obtain some supervision over children in the pre-school ages, to follow up to a greater extent the weakly ones who attended the child welfare centres, and endeavour to produce a healthier child at the school entrance age. At the present time only one clinic is in existence, but it is anticipated that the work will be extended during the coming year, when one or more additional clinics will be brought into being.

It cannot be too often stressed that many of the ailments so prevalent in after life have their origin during the years of early childhood, and medical supervision at such periods is highly desirable if preventive medicine is to be a real value.

DEATHS OF CHILDREN FROM 1-5 YEARS.

A comparative table is given (page 86), which shows from year to year the proportion of deaths of infants under one year and of children under school age. It will be seen that the gradual fall in the percentage of infant deaths compared with the total deaths is not merely a postponement of death into early childhood, but that there has been a steady reduction in loss of life of infants and young children, in both groups to the extent of 50 per cent. over the period reviewed.

Such figures are sufficient to refute the argument that Maternity and Child Welfare work aids in the saving of poor stock which will

succumb later, and indicates that whatever causes the improvement in the infant's chance of life, the effects are maintained and enhanced as the child grows older.

If the average number of deaths from violence (5) were deducted from column 6, the relative percentage would be even better.

(11) **SCHOOL MEDICAL SERVICE.**

Any report on young life should be of interest to those who follow in any detail the general health of the public, and no apology need be made for including in this survey report that part which appertains to children—indeed, I would suggest that by omitting the report on school children much of the usefulness of the remainder would be negatived.

The Education Committee are responsible for the medical care of some 20,000 children, and thereby accept a great responsibility. Just as they are entrusted with the moulding of the mind in order to produce useful citizens, so too are they entrusted with the care of the body to produce healthy men and women.

For several years the medical work has been placed on the shoulders of one man with various part-time services in addition. Obviously the normal routine work has had to be hurried, and certain parts of it have been omitted altogether. The Committee have very wisely realised the position, and at the end of the year appointed another full-time doctor (lady).

It is hoped with this extra service to carry out more thoroughly the work involved. The various branch clinics scattered about the town will come under the direct control and supervision of the doctors instead of making the nurses responsible for the work. Then, again, the mentally retarded who attend the special school at Temple House will be examined annually, and their mental ages and intelligence quotients will be obtained and followed up, as should be the case. It is hoped by these means not only to give a better service to the children themselves, but to bring the doctors into closer contact with the parents, who accompany their children to the clinics, and also cut down to some extent the hours of absence from the schools.

What is said of the medical staff applies in the same way to the dental side of the service. The Local Authority provide two whole-time dentists, whereas the Board of Education say that a school population of 20,000 should have work for four. There are two types of children coming up for dental treatment—the casuals and the cases for conservative treatment. Those requiring conservative or “stopping” treatment are from our point the most important. The aim is to save teeth, to get a child’s mouth into good order so that at the end of his school life he goes out into the world with a good set of teeth in his head and the knowledge that he has to keep them in order. The casuals, on the other hand, are largely made up of children arriving at the clinic because they have toothache, in many cases the result of parents refusing to have dental treatment when offered. If all children received proper dental treatment there would be little or no toothache, but until that takes place there will be a large number of casuals. One cannot turn these casuals away, but by treating them a considerable amount of time is wasted which would be more usefully spent in preserving the teeth of other children. In order, therefore, to improve the dental service, the Committee decided at the end of the year to make provision for another dentist in their estimates.

I would especially commend readers to study the report by Dr. Morrison on the condition of entrants to the nursery schools and classes. One of the most disturbing points I note in that report is the comparatively large percentage of children who are found to be suffering from rickets.

It must be remembered that these children, especially at the Wright Street School, are collected from housing surroundings which are very bad. It has been conclusively shown in the reports in the purdah system in India that want of fresh air and sunlight in the houses are of outstanding importance in the causation of rickets. The houses of many of these children are in narrow and congested courts, with the houses of the back-to-back variety. Improvement in these conditions would do much to assist Dr. Morrison in his work. The Committee fully realise the benefits to be obtained from these nursery schools, and their enthusiastic Chairman informs me that plans are being prepared for a similar school in another part of the town.

The Committee appreciate that no progress is made without research or experiment, and with that end in view they placed facilities at the disposal of Dr. Laurie to enable him to carry out some work in connection with ultra-violet light. A short report was given to the Committee after the experiment, but it is considered that the results of the collaboration of Dr. Laurie and Sir Leonard Hill should be permanently recorded, and are therefore included under the School section of this report.

Comment is made by the Physical Training Organiser (Mr. Mountford) on the holiday camp. This is a splendid means of giving the children an annual holiday at the seaside—but why stop at that? What I would like to see is the adoption of the week-end camp. There is no need to go miles away for this purpose. The requirements are as follows:—

- (1) An enthusiastic master or mistress.
- (2) An army hut or railway carriage.
- (3) Either hammocks or palliasses and straw.
- (4) An agreeable farmer with a good supply of eggs and milk.
- (5) A charming spot anywhere near Derby.

Take the boys or girls from Friday night until Sunday night, get them into the fresh air and show them the beauties of natural history, show them how to skin a rabbit, clean it and cook it over a wood fire, and they'll show you how to eat it. Teach them how to rough it and yet give elbow room to their neighbour. Show them the way to live. It will be of far more use to them in later life than learning how far it is from the earth to the moon or the distance round the equator. I've seen the experiment tried before, and its success was beyond all expectation.

(12)

TUBERCULOSIS.

The present scheme as it relates to Derby has too many shortcomings to be very successful. There is, however, a bright horizon even in tuberculosis work, and the first signs of its materialisation appeared during the past year.

It will be seen from Dr. Wray's report that the Tuberculosis Clinic has been removed from Ford Street and placed in separate buildings in Full Street. So far as the condition of the buildings is concerned, little, if anything, has been gained as the Full Street premises are, apart from the smell of gas, just about as bad as those at Ford Street. The really bright point about the move is that there is now a definite place where people can go for examination without sitting in an inadequate waiting room in close proximity to persons who might be smallpox contacts, enquirers on the destruction of vermin and so on. The premises are only temporarily approved by the Ministry, but in any case their days are numbered, as under the Derby Central Improvement Scheme they are scheduled for demolition. Whether provision will be made in the new Municipal Offices for the Tuberculosis Clinic, as is probable, or new premises are acquired in a fresh locality remains to be seen.

That the old premises were distasteful to the public is evidenced by the vast improvement in attendance, examination and the like which have resulted since the removal.

The disposal of patients for institutional treatment is somewhat unsatisfactory at present, but the possibility of utilising in the near future the City Hospital for some of the tuberculosis work will fill in several essentials gaps in the tuberculosis scheme.

At the present time all the patients are sent to the Sanatorium, a small institution of some 65 beds.

I have always been under the impression that a sanatorium was essentially a place for the treatment of early or mild cases, which had a reasonable chance of arrest of the disease and possibility of cure. The treatment must include in its sphere the treatment of the mind as well as the body. The desire to get well and the belief that they can get well must be instilled and maintained in their minds.

Such a state of mind cannot be induced at the Sanatorium at the present time owing to the very mixed type of patients being sent there. It is no good trying to make people see the bright side of things when the person in the next bed is obviously dying. From

Dr. Taylor's report on the Sanatorium it will be seen that several deaths occurred in the institution during the year, and many of them within a short time of admission.

If there is anything in sanatorium treatment, it is obvious that the whole principle of sending these moribund cases in is wrong. On the other hand, provision must be made for such cases, and it is hoped that in that way the City Hospital will prove its utility.

Another drawback is that there is not available for the medical officers at either the Sanatorium or the Clinic X-ray apparatus for examinations or treatment purposes; the present system only provides for cases going to the Derby Royal Infirmary, where they are charged at so much per case. Such lack of facilities may be responsible for the relatively small amount of active treatment which has been undertaken on the tuberculosis side of the department. Here, again, the City Hospital will provide the want up to a point, and there is no reason why full advantage should not be taken of the new facilities offered.

Concerning dental treatment, pretty much the same position exists as obtains for Maternity and Child Welfare. Summed up briefly, the patient prefers to continue to absorb poison and retain his own teeth than have a clean mouth but bereft of teeth.

A glance at Dr. Wray's figures, giving a comparison of the notifications and deaths of tuberculosis cases during the last five years, shows an improvement, slight though it may be. The ward distribution remains pretty well the same year after year. The worst parts of the town are invariably the most congested with families, and contain the poorest property, and while these continue to exist the seed will continue to find a fertile ground. Derby should not have high tuberculosis rates. The climate is good; the economic position of the people will compare very favourably with any part of the country; unemployment, although considerably greater than in previous years, is still well below the average for industrial towns. The greatest deterrent to the lowering of the tuberculosis rate is the housing problem. There are hundreds of court houses, either back-to-back and with no through ventilation, or in a thoroughly bad state of repair, blocking out the light and

the air from others, and doing everything possible to propagate rather than prevent disease.

(13). **Ambulance Facilities.** The Local Authority provide two ambulances for the Isolation Hospital, one for the City Hospital, and two for the Police for special purposes. In addition, the St. John's Ambulance Association is prepared to remove patients to the voluntary hospitals.

(14) **Clinics and Treatment Centres.** Details of these are given elsewhere in the Report.

(15) **Local Government Act, 1929.** In the administrative scheme passed by the Council, declarations were made for the following services :—

(a) **Maternity and Child Welfare Act, 1918.**

- i. *The provision of a Midwifery service.*
- ii. *The provision of the services of a doctor for illness connected with pregnancy, and illness (whether of the mother or the child) during the period of confinement.*
- iii. *The provision of nursing in the home for expectant mothers and women suffering from Puerperal Fever and for children suffering from measles, whooping cough, epidemic diarrhoea, poliomyelitis, ophthalmia neonatorum, or any other disease the nursing of which is included in arrangements made by the Council under the Act.*
- iv. *The provision of milk or other food for expectant and nursing mothers and children, medically certified to need additional nourishment.*
- v. *In the foregoing paragraph the term " children " means children who have not attained the age of five years and are not being educated in schools recognised by the Board of Education.*

(b) **Blind Persons Act, 1920.**

The provision of domiciliary assistance to blind persons.

(c) **Education Act, 1921.***The Education of Children.*

It is much too early to give any adequate report on the results of the working of the Act as the process of fitting in is still gradually taking place. Various anomalies, such as the payment by the guardians for cases sent to the Isolation Hospital or the Sanatorium, have been eliminated.

SANITARY CIRCUMSTANCES OF THE AREA.

(1) **Water.** Those desirous of ascertaining the quality and quantity of water available will obtain the requisite information in the report written by Mr. Farrington, Water Engineer (pages 271 and 272).

(2) **Rivers and Streams.** At one time a large part of the present-day Derby was occupied by green fields and small streams, and when the rain came part of the water was absorbed by the ground and the remainder found its way into the streams. The fields were gradually built over and the streams running through them were for the most part culverted, and in many cases run alongside the drains. The rain which now fell could not be absorbed by the ground to anything like the same extent, but rather was collected by the impervious roofs and streets and run into the drains. This increase was too much for the capacity of the drains, and they in turn were connected to the culverts, through which the old streams ran. Thus the streams became overflows for storm water. Had they been utilised for that purpose alone, this story would have ended here. Unfortunately, they have in many cases been used as drains proper, both by private houses and public concerns, and the result in one case (the Cotton Brook) occasioned a good deal of prominence and comment in the local Press. In the case in point the stream water, after being well polluted in the way described, passed into pleasure gardens, first in the form of a paddling pool for youngsters, and then into an artificial lake, wherein aquatic and other sports are held. Samples of the water taken showed high sewage pollution.

A scheme was put forward by the Borough Surveyor to utilise canal water for the lake and divert the flow from the Cotton Brook. This, however, was turned down by the Council in their wisdom,

and the old position holds good except that the water in the lake is diluted from time to time by running in water from the canal.

(3) **Drainage and Sewerage.** A number of new sewers have been laid during the year, principally in connection with new housing sites. A new sewage scheme is contemplated, which is badly needed, and will remove many objections.

(4) **Closet Accommodation.** A list is appended of all the classes of sanitary accommodation in the Borough, and it will be noted with considerable satisfaction that only approximately 200 tub closets remain unconverted to the water carriage system. It is hoped that the remainder, the majority of which are of the "movable type," will soon be abolished.

(5) **Scavenging.** With the appointment of the new Cleansing Superintendent and Transport Manager, a number of alterations are taking place in the work of the Department, including the controlled system of tipping. At this stage one is not justified in making any criticism of the matter.

(6) **Sanitary Inspection of the Area.** Full details on this subject are contained in the Sanitary Inspector's report.

(7) **Smoke Abatement.** While Derby is an industrial centre, we are extremely fortunate in finding that the nature of the industries are such that the usual multitude of chimneys are absent. There are a few odd chimneys which require a reminder from time to time, but up to the present it has not been necessary to press for bye-laws.

(8) **Premises and Occupations which can be controlled by Bye-laws or Regulations.**—In connection with this heading, details of which are contained in the Sanitary Inspector's Report, the Health Committee have accepted the power contained in the Public Health Act of only registering or licensing premises for the use of offensive trades for periods of twelve months, after which they must be renewed. This gives very much greater power to the Local Authority to control such premises. Fried fish shops are a form of premises which should have considerably more supervision than at present

exists. They are not designated locally as offensive trades, with the result that they are put up, even in the middle of residential property, and their apparatus may be of the most primitive type. It is doubtful if many are fitted with suitable condensers, and in some cases it is not necessary to go down the street in order to find if there are any fish and chip shops in operation.

The town is badly in need of some well-built and well-maintained lodging houses, both for individuals and for families. Some of those at present existing are disgusting, and would be closed tomorrow if more suitable places could be substituted.

(9) **Schools—Sanitary Condition and Water Supply.** So far as water is concerned, the public need have no fear regarding the quality or quantity of water provided for the children. During the year, as time permitted, the schools have been inspected and their sanitary conveniences noted. This work was not completed at the close of the year, and it would be unfair to publicly report before giving the Committee an opportunity to put their house in order. A general summary would be that in the Council Schools conditions are becoming out of date, whilst in the Church Schools they are decidedly antiquated.

HOUSING.

A large amount of detailed matter relating to the housing conditions at present existing in Derby is contained in the report of the Chief Sanitary Inspector.

It was the custom at one time to build a house anywhere and anyhow, with the result that there has been created in this town in the past the system of erecting small cottages in courts, where congested conditions prevail and all the amenities which may be reasonably expected in a dwelling house are omitted. People whose economic position allow them to do so, avoid using such places as their homes and gradually those whose means are small drift into the courts. In many cases the landlords haven't the slightest intention of doing anything for the property; in many cases too the tenants don't care very much how they themselves treat the buildings. Thus we get in a number of places in this town bad property, and when that is allied with the poverty and

overcrowding which exists therein, such areas become breeding spots of ill-health and disease.

With the powers obtained under the new Housing Acts, it is hoped that some 1,200 houses will receive the treatment they so richly deserve.

While on this subject, I would point out to the Council that my duties are definitely laid down under Section 51 of the 1930 Housing Act. It is clearly stated, in respect of inspection and representation, that whenever information is in my possession action must be taken. With the information which I find has accumulated in this Department the necessary knowledge is at hand and the excuse that alternative accommodation is not available for the rehousing of displaced persons, would not be a valid one to offer for neglect of my duty. The work of laying representations before you must therefore steadily progress as fast as the details can be provided and scheduled by the members of my Staff. At the end of the year details were in preparation for the first two clearance areas. How the remainder of the properties will be treated cannot at the moment be shown as we must consider on their merits the various sections as they come along.

INSPECTION AND SUPERVISION OF FOOD.

(a) **Milk Supply.** A good deal has been written in the local press on the iniquity of the Public Health Committee taking the living from the small milk dealers and perhaps it would be advisable to survey the whole position regarding the sale of milk in Derby.

Let us first consider it from its three sources, *i.e.*,

- (1) That brought into the town from outside sources.
- (2) That produced on farms in the town.
- (3) That sold in the shops.

The surrounding districts are largely used for milk producing purposes, and the small farms contract with the bigger milk dealers to take their supply in bulk. Some of these farms and their cows are well-kept and the milking is conducted in a cleanly manner. We have no fault to find in that respect ; in fact we would encourage it. On the other hand, some of the farmers are slack in their methods and their ideas of cleanliness are rudimentary, with the result that

the product which they produce as milk is not much better than liquid sewage. The various milks are mixed together after collection and all the good work of the clean farmers is neutralised by a few of the others and eventually the householder grouses because his milk becomes sour soon after delivery. In order to deal with that situation samples of these incoming milks are tested. Where the results are found to be good we inform the farmers to that effect. When they are bad, a notice is sent stating the condition and warning them that further samples would be taken and in the event of no improvement further action would be taken. As a result of discussions with the milk dealers, the latter have inserted in their contracts the proviso that in the event of receiving adverse reports on milk samples from the Medical Officer of Health they are entitled to break the contract. Thus in the event of a continuance of dirty samples from a farmer, the milk dealer is informed of the position and for the benefit of his own supplies he will refuse to accept any more of that milk.

As regards the farms in Derby itself, we have found on our first inspections at the close of the year that many of these are in a deplorable condition, and the manner in which the milk is produced leaves much to be desired. As the matter was still being dealt with at the end of the year, we cannot give the results of our work.

So much for the milk on the producers side. To deal with it from the retail side is a much more difficult matter. In Derby, with a population of 140,000 we found that there were over 700 milk retailers on the register. Of these, less than five per cent. were genuine dairies where milk and dairy produce were the principal items sold. The remaining places comprised an extraordinary assortment of premises:—bookshops, butcher's shops, shops receiving soiled clothes for laundries and multitudinous small shops of every description. We found the milk stored in passages, backyards and washhouses and in all sorts of containers, covered and uncovered. Obviously this state of affairs could not be allowed to continue, and towards the end of the year the process of removal from the register was commenced.

We contend that a food which is to be used by the healthy as well as invalids and infants should be kept under hygienic conditions.

Primarily that can only be done in suitable premises. Small shops have been selling this milk simply as a catch-penny trade. They take no interest in the milk trade as such but fit in a bowl of milk somewhere in the midst of firewood, paraffin oil, dusty vegetables and the like. Ventilation and cleanliness have been conspicuous by their absence. As a point of interest we took a sample from the milk produced on a clean farm before delivery and later from three of the shops wherein it was sold, and the results were illuminating. The milk from the farm showed a very low bacterial count and an absence of the bacillus coli which is the organism indicative of manural contamination. The samples from the three small shops all gave very high bacterial counts and all contained the bacillus coli. Small shops crowded with small articles, on the walls, on counters, floors and ceiling cannot be kept reasonably free from dust, and after all, dust in these days of impervious road surfaces contains a very high manurial content.

The only satisfactory way of dealing with milk is by retailing it in bottles or other sealed containers. If the public desire clean milk they can get it. If they demand bottles they can get them. But if they don't assert their demand they must just be content with anything that is ladled out to them.

For those who desire a guaranteed clean milk, the Grade A variety is available. A licence to produce and sell such milk is only given to farmers whose farms and methods of milking come up to a certain standard. Then again a further variety of milk may be obtained, namely Grade A Tuberculin Tested. In this case, besides the cleanliness of the farms coming up to a certain standard, the cows themselves are tested from time to time in order to make sure that they are not suffering from tuberculosis in any form. Unfortunately the expense entailed by the farmers in producing this milk necessitates a higher price being charged, but anyone who has to feed an infant or a delicate child on milk is assured of a perfectly wholesome and safe food. The Health Committee realising the necessity for this precaution now provide all the children at the Isolation Hospital with milk from tuberculin tested cows.

The ordinary milk on sale in the shops is examined for the presence of tuberculous infection and during the past year no fewer than ten per cent. of the samples proved to be positive. This is a large percentage and points to a lack of suitable examination by veterinary inspectors in the county farms. This lack of duty on the part of outside agencies unnecessarily exposes Derby children to infection by the tubercle bacillus.

(b) **Meat and other Foods.** An outstanding feature of the year has been the erection of model abattoirs by the local Co-operative Society. Such buildings are badly required in Derby, and it is regrettable that the Corporation are themselves delaying so long the erection of an up-to-date public abattoir. Derby butchers are a reasonable body of men and they certainly assist us in our meat inspection, but things being as they are, this takes up a considerable amount of time which could be utilised with profit in other directions. Places where food is prepared require additional supervision and it is proposed to spend more time on this in the future than has been done in the past.

(c) **Adulteration, etc.** Samples of foods and drugs of every description are taken throughout the year, and I have to report that no adulteration has been found sufficient to warrant a prosecution.

(d) **Tuberculosis Order.** Information relating to work under this order is contained in a report given by Mr. Wallace, Markets Superintendent.

PREVALENCE OF, AND CONTROL OVER, INFECTIOUS AND OTHER DISEASES.

This section of the work has, for the greater part of the year, been placed under the charge of Dr. Haigh, and I would commend a study of his report. As regards the commoner infections we have had a heavy time, due to an epidemic of scarlet fever at the beginning of the year, and one of diphtheria towards the end. Although smallpox has been prevalent in the neighbouring counties we were singularly fortunate in only having one case, and that a very mild

one. We are, however, living on the brink of a volcano so far as smallpox is concerned, and it will only be by the early notification of cases that an epidemic will be prevented. Chickenpox is continued as a notifiable disease, not that it is of much consequence in itself, but there is always the possibility of a smallpox case being labelled as chickenpox.

As a result of the 1929 Act, the work of the Vaccination Officer is included in the Health Department. The present state of the Vaccination Laws is making this position almost an impossible one. In Derby very few children are vaccinated on account of the "conscientious clause." The Vaccination Officer has certain duties to perform even in this connection, but he is not being assisted by some of the magistrates in the carrying out of his statutory duties regarding the filling up and signing of the forms.

Whooping cough, which is perhaps the most distressing of childish complaints, is not notifiable. We have, however, a close system of working with the education department, so that all such cases among school children come to our knowledge, and following up of that information gives us the under-school-age class.

Cancer still continues to take its annual toll, and tends to increase. During the year circulars were sent to all the medical practitioners in the area asking them to co-operate with the Health Department in obtaining the information suggested by the Departmental Committee on Cancer of the Ministry of Health. It is now more than three months since these circulars were issued, and yet not a single case has been reported to us, obviously showing to what extent we may expect any unpaid help from the medical profession.

GENERAL SUMMARY.

During the past five years many outstanding events have taken place, especially in the laws relating to the health of the community. Their originators had splendid ideals in their minds, but it remains to be seen how far they will meet their desired end when brought into practice. It should be an easy matter to condemn as totally unfit a large amount of property in Derby, but the re-housing

presents a more difficult problem, but one which will have to be solved.

New institutions for the treatment of the sick have come into being and additions are being, or have been made to existing buildings in order to provide more bed accommodation. In this respect the people of Derby have shown foresight and have recognised their duty to the sick.

The inclusion in the Borough of large parks and permanent open spaces are in the nature of a good investment, for with the rapid building up all around the town these oases will in years to come be of inestimable value. While traffic continues to be allowed in all streets, regardless of the congestion or the type of vehicles used, the number of fatal accidents will tend to grow. Children should be encouraged to spend their time out of doors, but they must have playgrounds where they can run about and get rid of their energy.

This past year in particular, returns relating to the general death rate as well as to infantile and maternal, have been encouraging by their steady reduction. More could be done, particularly amongst children, if parents would encourage protection against diseases such as diphtheria. A greater understanding of the fundamentals of good health is being acquired by the people day by day and year by year, and the solution of many of the problems lies in their hands if they are prepared to exert the power which they possess.

In conclusion, I would offer my thanks for the manner in which the chairman and members of the committees have helped and borne with me during my first year of office, to the Town Clerk and heads of other departments for their ready assistance and co-operation in getting work carried out. To all the members of my staff for the loyal and efficient manner in which they have carried out their work, in many cases under difficult and unpleasant circumstances, I have to express my gratitude.

I am,

Ladies and Gentlemen,

Your obedient servant,

GORDON LILICO.

HEALTH REPORT.

1930.

I—GENERAL.

INCLUDING REPORTS

BY

MR. E. H. BENNETT, M.Inst. M. & Cy.E., *Borough Surveyor,*

AND

MR. ALBERT CONNOR, M.I.P.C., *Director of Public Cleansing and
Transport Manager.*

STATISTICAL SUMMARY.

Area of Borough	...	...	...	...	...	7,137 Acres.
Elevation above sea level—	{ highest, Burton Road lowest, Alvaston Ward Market Place					325 ft. 126 ft. 157 ft.
Population at Census, 1921	...	{ Males ... 62,807 Females ... 66,989 }				129,796
*Estimated Population for 1929	{ for the death-rate for the birth-rate					140,500 140,700
Number of Houses (1921 Census)	...	...	...	...	...	29,120
„ Inhabited Houses at end of 1930 (according to Rate Books)	...	...	...	...	...	34,880
Number of Families or separate Occupiers (Census 1921)	..					30,263
Number of persons per acre at Census, 1911	...	...				23·4
„ „ „ 1921	...	...				24·6
Number of persons per House at Census, 1911	...	...				4·34
„ „ „ 1921	...	...				4·55
Rateable Value at October 1st, 1930 (General Rate)	...					£774,068
Estimated amount realised by a Penny Rate	...	...				£2,960

* In view of the fact that a Census will take place during 1931, we have received instructions from the Ministry of Health that the estimated population for 1929 should be used for the calculation of rates throughout this Report.

SOCIAL CONDITIONS.

Derby is an industrial town and shopping centre with a large working-class population. The majority of the workers are employed in the Midland Railway engineering works and in the Rolls Royce works.

The other industries that provide employment include tape, lace, hosiery, shoes, and cellulose factories. Women are employed in these factories, but the majority are unmarried.

The chief industries are as follows :—

Engineering. Ranging from the lightest to the heaviest products.

From small repetition articles to heavy marine engines, including the world's finest motor and aero engines, and the best-known refrigerating systems, the heaviest railway locomotives, and many special products in surveying instruments and machine tools, sugar refining machinery, lawn mowers and high pressure steam pipes : the largest malleable castings industries in the country and some of the best-known foundries for both extremely light and heavy grey iron castings ; agricultural machinery, boiler making, bolts and rivets, brass and aluminium founders, brickmaking machinery, bridge-building conveyors, cranes, stoves and grates, Underfeed Stokers and colliery machinery.

Electrical specialities, including motors, dynamos, wireless installations, etc.

Wood-Working Trades. Including carriage building, rolling stock, and specialities.

Hosiery, Cotton and Woollen Goods. Great majority on piecework.

Building Trades.

Printing. Including the finest colour reproduction and poster work, through all grades to newspaper and leaflet production.

Chemical Trade. Synthetic chemicals, acids, etc., medicinal preparations, etc.

Breweries and Kindred Industries.

China Manufacture. Including celebrated Derby Crown Porcelain.

Various Trades. Boots and shoes, watches and clocks, tapes, braiding, leather goods of all descriptions, elastic webbing, millinery, jewellery, paints and plasters, tanners and curriers, furniture makers, tents and tarpaulins, corsets, cycles, coopers, baskets, cardboard boxes, bricks and tiles, artificial limbs, rubber goods of all types, alabaster and marble works, lace, lead works, natural silk, trimmings, wallpaper, oxygen and Ferro concrete, etc.

Artificial Silk. Most branches of the artificial silk industries are now represented, and Derby is most probably the largest and most important centre on the industry in England.

Electrical Cables. Some of the largest cable manufacturers are located in the district.

Glass Works. Manufacture of optical glass, etc.

There is a good deal of unemployment in the engineering trade. The wages of the casual labourers are said to be low, but on the whole the population is of the thrifty artisan type.

The housing conditions have improved—4,497 houses have been built under the Municipal Housing Scheme to the end of 1930.

1930.

						Rate per thousand population.		
Marriages	...	...	...	...	1,408	...	...	20·0
		Total.	Males.	Females.				
Live Births	legitimate	2,300	1,222	1,078	Birth-rate	17·1		
	illegitimate	107	65	42				
Births (notified)	...	2,335	—	—				
Still Births	...	91	58	33	Rate per 1,000			
					total births	36·4		
Deaths	...	1,590	835	735	Death rate	11·3		
Percentage of Total Deaths occurring in Public Institutions						45·6		
Excess of Births registered over Deaths					...	...	...	817
Number of Women dying in, or in consequence of, Childbirth				} From Sepsis		...	4	
				} From other causes...		...	2	
Maternal Mortality per 1,000 Total Births				} Live and {		2·4		
Maternal Sepsis Death Rate						} Still {		1·6
Deaths of Infants under one year of age—								
Legitimate, 157.			Illegitimate, 15.			Total, 172.		
Death Rate of infants under one year of age per 1,000 live births—								
Legitimate, 68·3.			Illegitimate, 140.			Total, 71·5.		
Deaths from Measles (all ages)				...	...	...	...	18
„	Whooping Cough (all ages)				...	...	...	3
„	Diarrhoea (under 2 years of age)				...	...	...	18

DEATHS.

					Rate per 1,000 population.
Zymotic Diseases	...	...	...	71	0.50
Tuberculosis of Respiratory System	...			106	0.75
Other Tuberculous Diseases	...	...		18	0.13
Respiratory Diseases	...	...	...	146	1.04

DEATH RATES :—

						Rate per 1,000 population.
England and Wales	...	...	...	...	...	11.4
107 County Boroughs and great towns (including London)...	...	...	...	...	...	11.5
159 smaller towns (1921, Adjusted Populations, 20,000—50,000)	10.5
London	11.4

BIRTHS.

Birth-rate, 1930	17.1
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The Births registered during the year numbered 2,705, as compared with 2,681 in 1929 ; of these 2,705 births, 329 were strangers, and there were 31 births of Derby babies registered outside the Borough, making a net total of 2,407. The corrected birth-rate was, therefore, 17.1.

DEATHS.

Death-rate, 1930	11.3
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The total number of Deaths registered during the year was 1,808, as compared with 2,117 in 1929 ; of these 1,808 deaths, 251 were strangers, and there were 33 deaths of Derby residents registered outside the Borough, making a net total of 1,590. The net death-rate, therefore, from all causes was 11.3.

BURIALS.

The total burials in the Derby Cemeteries for the year 1930 were 1,658, made up as follows :—

Nottingham Road	...	1,379	Ordinary Burials.
		95	Still-born.
Utttoxeter Road	...	104	Ordinary Burials.
Normanton	...	79	" "
		1	Still-born.
Total	...	1,658	

MORTALITY AT VARIOUS AGES.

AGE PERIOD 1—5 (67 deaths). Rate per 1,000 of total population 0·48.

Infectious diseases were responsible for a number of deaths, Diphtheria causing 9 and Measles 6. Pneumonia (15) was likewise a very fatal disease. Tuberculous diseases other than pulmonary were the cause of 8 deaths. There were also 7 deaths from Violence (due to burns and scalds in four instances, while two deaths resulted from being knocked down by motor cars, and in one case the child was run over by a milk float).

AGE PERIOD 5—15 (58 deaths). Rate per 1,000, 0·41.

The chief contributing causes of death were Diphtheria 13, Violence 8, Rheumatic Fever and Heart Diseases 5 each, Scarlet Fever 4, Measles, Bronchitis, Pneumonia and other Tubercular Diseases 3 each.

AGE PERIOD 15—35 (140 deaths). Rate per 1,000, 1·0.

Tuberculosis of respiratory system was the most dangerous ailment; 42 deaths were assignable to that cause. Violence and Heart Diseases caused 11 deaths each, Rheumatic Fever 7, Pneumonia and Gastric Ulcer, Nephritis and Scarlet Fever 6 each, Cancer 4, Appendicitis, Suicide and Puerperal Sepsis 3 each.

AGE PERIOD 35—45 (114 deaths). Rate per 1,000, 0·81.

Tuberculosis of respiratory system was also the most dangerous disease in this age period, causing 27 deaths. Heart Diseases caused 24, Cancer 11, Pneumonia 8, Suicide 6, and Rheumatic Fever 4.

AGE PERIOD 45—65 (408 deaths). Rate per 1,000, 2·90.

The chief causes of death were Heart Diseases 92, Cancer 82, Cerebral Hæmorrhage 44, Tuberculosis of respiratory system 29, Nephritis 20, Pneumonia 16, Bronchitis 13, Arterio Sclerosis 12, Violence 11, Suicides and Gastric Ulcer 7 each.

AGE PERIOD 65 AND OVER (631 deaths). Rate per 1,000, 4·49

In the declining years of life, Heart Diseases 165, Old Age 137, Cancer 68, Cerebral Hæmorrhage 60, Arterio Sclerosis 47, Nephritis 29, and Bronchitis 25, were the chief causes of death.

There were 320 persons between 70 and 80 years at death.

„ „ 133 „ „ 80 „ 90 „ „

„ „ 15 „ over 90 years at death.

Ninety-eight was the highest age at death (a female).

Principal Causes of Death, 1930, COMPARISON WITH 1929.

	<i>Deaths in 1930.</i>	<i>Increase.</i>	<i>Decrease.</i>
Heart Diseases	300	...	32
Cancer	165	...	35
Old Age	137	...	84
Tuberculosis of Respiratory System	106	7	...
Cerebral Hæmorrhage, etc. ...	104	6	...
*Premature Birth	95	6	...
Pneumonia	83	...	60
Violence Causes (including Suicide)	74	4	...
Nephritis... ..	60	4	...
Arterio-Sclerosis... ..	59	12	...
Bronchitis	52	...	61
Rheumatic Fever	23	8	...
Diphtheria	22	6	...
Measles	18	12	...
Other Tuberculous Diseases ...	18	...	2
Diarrhœa (under 2 years) ...	18	4	...
Ulcer of Stomach, etc. ...	16	7	...
Diabetes	16	7	...
Other Respiratory Diseases ...	11	...	4
Scarlet Fever	10	8	...
Influenza	6	...	88

*Including Congenital Defects, and Atrophy, Debility and Marasmus.

Inquests held during 1930.—These numbered 113, 75 males and 38 females.

Mortuary.—Dead bodies received during the year, 49, Post mortem examinations, 44

Infantile Mortality.—Of the 172 deaths of babies under the age of one year, 77 occurred during the first month, and of this number 70 per cent (viz., 54) took place during the first week of life.

Excessive Mortality during the year.—Cancer was responsible for 165 deaths during 1930, this being a decrease of 35 as compared with 200 in the previous year. The average mortality in the quinquennium 1906-10 was 100·8, while that of the quinquennium 1926-30 was 178·2. Heart Disease shows an increase of 52 deaths over the yearly average for the preceding five years, but shows a decrease of 32 as compared with 1929.

DEATHS FROM VIOLENCE.

	1930.	1929.
Suicide	17	16
Other Forms of Violence ...	57	54

The following table gives a comparative summary of the Deaths from Other Forms of Violence during 1929 and 1930 :—

Street Accidents.	1930.	1929.
Knocked down by Motor Traffic	18	14
Knocked down by Bicycle	1	2
Knocked down by Horse Vehicle	1	1
Collisions between Motor Vehicles, etc.	3	2
Thrown from Motor Vehicles	3	3
Kicked by Pony	1	—
Home Accidents.		
Burns, Scalds, etc.	6	6
Gas Poisoning	—	4
Falls, Fractures, etc.	9	10
Swallowed Coin	—	1
Killed by fall of rock whilst on holiday	1	—
Railway Accidents.		
From Collisions between Trains	—	4
Drowning	9	5
Accidentally Shot	—	1
Fall from Ladder	1	1
Accidents at Work and connected with Machinery.		
Crushed by load of timber	1	—
Caught in travelling belt	1	—
Fell from movable tower	1	—
Fell from scaffolding	1	—

POPULATION, AVERAGE NUMBER OF BIRTHS, AND DEATHS FROM CERTAIN CAUSES FOR FIVE-YEARLY PERIODS FROM 1880—1924; WITH THE AVERAGE RATES PER 1,000 OF THE POPULATION IN THE BOROUGH OF DERBY, AND NUMBER AND RATES OF SAME FOR EACH YEAR SINCE 1925.

YEARS	Population.	Corrected Number of Deaths.	Death-rate per 1,000 living.	Births.	Birth-rate per 1,000 living.	Deaths from 7 principal Zymotic Diseases.	Zymotic rate per 1,000 living at all ages.	Deaths from Pulmonary Tuberculosis.	Pulmonary Tuberculosis Death-rate.	Infantile Mortality per 1,000 Births.	Deaths from Res. Dis. exclusive of Pul. Tub.	Respiratory Death-rate.
1880-84	82,728	1,559	18.8	3,050	36.9	182	2.19	138	1.7	140.0	258	3.1
1885-89	89,072	1,611	18.1	2,942	33.03	163	1.83	129	1.4	143.7	276	3.1
1890-94	95,497	1,710	17.9	2,927	30.6	180	1.88	131	1.4	149.6	262	2.7
1895-99	101,275	1,687	16.7	2,878	28.4	188	1.86	118	1.2	161.6	249	2.5
1900-04	113,357	1,702	15.01	3,132	27.6	171	1.51	107	0.94	144.0	246	2.2
1905-09	125,791	1,731	13.8	3,181	25.3	180	1.43	115	0.91	122.9	248	1.97
1910-14	126,094	1,583	12.5	3,004	23.8	111	0.88	112	0.89	95.2	247	1.96
1915-19	{ 120,519 128,520 }	1,727	14.3	2,508	19.5	93	0.77	118	0.98	92.9	310	2.6
1920-24	{ 131,914 131,984 }	1,486	11.3	2,861	21.7	56	0.42	107	0.81	68.2	260	1.9
1925	{ 134,400 134,700 }	1,595	11.86	2,527	18.8	45	0.33	111	0.83	74.0	249	1.85
1926	{ 136,600 136,800 }	1,495	10.94	2,596	18.97	62	0.45	107	0.78	66.6	197	1.44
1927	{ 136,400 136,600 }	1,708	12.52	2,466	18.05	59	0.43	78	0.57	68.1	259	1.90
1928	{ 138,900 139,100 }	1,521	10.95	2,679	19.26	73	0.53	102	0.74	60.1	146	1.05
1929	{ 140,500 140,700 }	1,897	13.5	2,681	19.05	60	0.43	99	0.70	63.8	271	1.93
1930	{ 140,500 140,700 }	1,590	11.3	2,407	17.1	71	0.50	106	0.75	71.5	146	1.04

CHART SHOWING PRINCIPAL CAUSES OF DEATH, 1910.

Estimated Population 131,256.

Deaths from Infectious Diseases.

Deaths from Other Diseases.

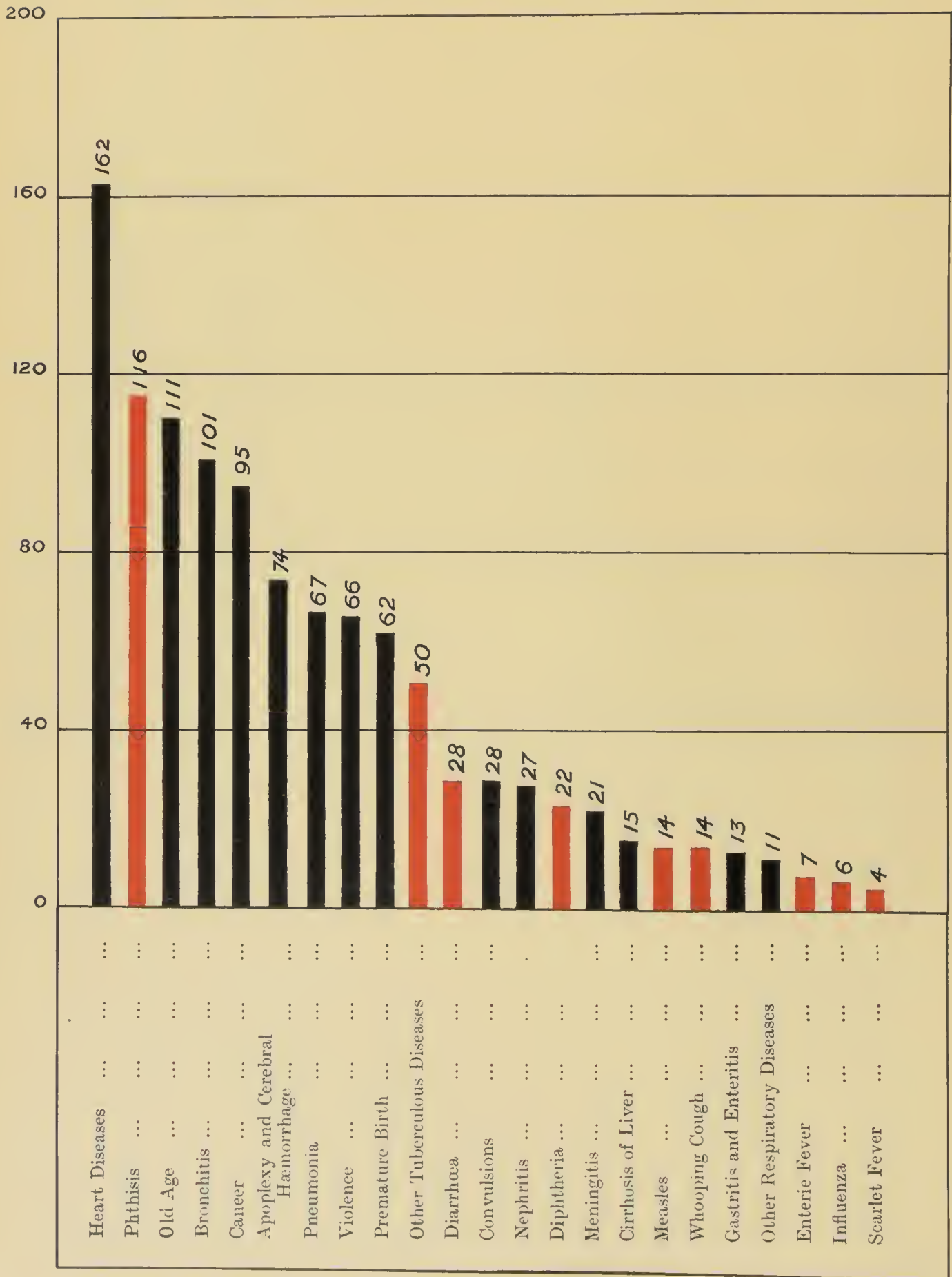
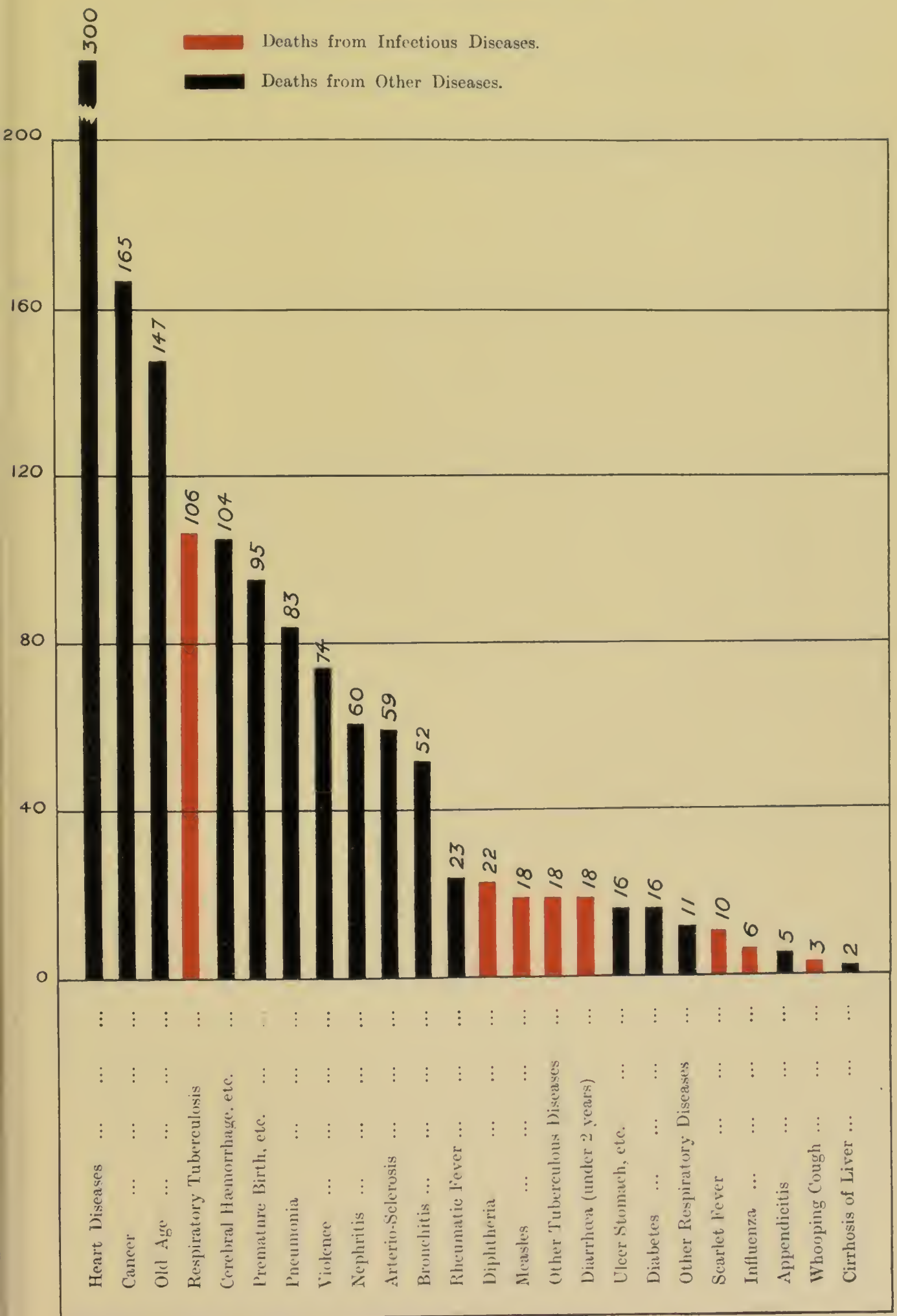


CHART SHOWING PRINCIPAL CAUSES OF DEATH, 1930.

Estimated Population 140,500.



Causes of, and Ages at Death, during 1930.

CAUSES OF DEATH.	DEATHS IN OR BELONGING TO WHOLE DISTRICT AT SUBJOINED AGES.															TOTAL DEATHS IN PUBLIC INSTITUTIONS.	
	All Ages.	Under 1 year	1 & under 2 yrs.	2 & under 3 yrs.	3 & under 4 yrs.	4 & under 5 yrs.	5 & under 10 yrs.	10 & under 15 yrs.	15 & under 20 yrs.	20 & under 35 yrs.	35 & under 45 yrs.	45 & under 65 yrs.	65 & upwards.	Residents.	Non-Residents.		
Enteric Fever ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Smallpox ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	18	9	3	1	2	...	3	...	...	...	...	...	...	8	...
Scarlet Fever	10	...	...	...	...	...	3	1	1	5	...	...	...	8	...
Whooping Cough	3	3	...	...	...	...	...	...	...	...	...	...	...	2	...
Diphtheria	22	...	1	3	2	3	12	1	...	...	...	...	...	19	2
Influenza	6	1	...	...	...	...	1	...	...	...	1	1	2	3	1
Encephalitis Lethargica	1	...	...	...	...	...	...	...	...	...	1	...	...	1	...
Meningococcal Meningitis	1	1	...	...	...	...	...	...	...	...	...	...	...	1	1
Tuberculosis of Respiratory System	106	1	2	...	...	...	...	...	11	31	27	29	5	53	2
Other Tuberculous Diseases	18	3	1	3	2	2	2	1	2	...	1	1	...	15	15		
Cancer, Malignant Disease	165	...	...	...	...	...	...	...	1	3	11	82	68	76	18
Rheumatic Fever	23	...	...	...	...	1	3	2	4	3	4	1	5	14	1
Diabetes	16	...	...	...	...	...	...	...	...	2	...	6	8	8	4
Cerebral Hæmorrhage, etc.	104	...	...	...	...	...	...	...	...	...	...	44	60	51	2
Heart Disease	300	1	...	...	1	1	1	4	1	10	24	92	165	83	15
Arterio-sclerosis	59	...	...	...	...	...	...	...	...	...	...	12	47	8	...
Bronchitis	52	5	2	...	...	...	2	1	...	2	2	13	25	6	1
Pneumonia (all forms)	83	16	10	2	1	2	2	1	2	4	8	16	19	48	12		
Other Respiratory Diseases	11	1	...	...	1	...	...	...	...	1	1	4	3	4	...
Ulcer of Stomach or Duodenum... ..	16	...	...	...	...	...	...	...	1	5	2	7	1	8	6
Diarrhœa, etc. (under 2 years)	18	16	2	...	...	...	...	...	...	...	...	...	...	6	2
Appendicitis	5	...	...	...	...	...	...	...	2	1	...	1	1	5	6
Cirrhosis of Liver	2	...	...	...	...	...	...	...	...	...	...	2	...	...	1
Acute and Chronic Nephritis	60	...	...	...	...	...	1	1	1	5	3	20	29	18	15
Puerperal Sepsis	4	...	...	...	...	...	...	...	1	2	1	...	...	4	4
Other Accidents & Diseases of Pregnancy and Parturition	2	...	...	...	...	...	...	...	...	1	1	...	...	2	6
Congenital Debility & Malformation, Premature Birth	95	93	...	1	...	...	1	...	...	...	...	...	...	49	26
Suicide	17	...	...	...	...	...	...	...	...	3	6	7	1	2	2
Other Deaths from Violence	57	...	2	...	4	1	8	...	4	7	3	11	17	36	29		
Other Defined Diseases	313	22	6	2	1	1	3	4	7	17	18	58	174	185	68		
Causes ill-defined or unknown	3	...	1	...	...	...	...	...	...	...	...	1	1	2	...
Totals	1590	172	30	12	14	11	42	16	38	102	114	408	631	725	240		

CAUSES OF DEATHS AND WARD DISTRIBUTION, 1930.

Causes of Death.	DEATHS IN OR BELONGING TO LOCALITIES (AT ALL AGES).													Strangers.				
	Total.	Abbey.	Alvaston.	Arbor.	Bab.	Becket.	Bridge.	Castle.	Dale.	Derwent.	F. Gate.	K. Mead.	Litch.		Norman.	Osmas.	Pear Tree.	Rowditch.
Enteric Fever	1
Smallpox
Measles	18	...	1	2	...	2	2	3	...	1	...	5	...	2	...	...	...
Scarlet Fever	10	...	...	1	1	1	1	1	...	2	...	...	1	1	1	...	...
Whooping Cough	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria	22	...	1	1	3	1	...	6	...	...	2	4	1	2	...	1	...
Influenza	6	...	...	...	1	...	...	...	...	...	...	1	1	...	2	...	1
Enecephalitis Lethargica	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Meningococcal Meningitis	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis of Respiratory System	106	10	6	5	2	7	8	13	...	9	7	12	5	4	10	6	2	
Other Tuberculous Diseases	18	...	1	...	...	...	2	7	1	...	...	2	1	2	1	1	...
Cancer, Malignant Disease	165	13	8	13	14	3	11	10	6	7	6	17	14	10	9	12	12	
Rheumatic Fever	23	1	1	3	...	1	...	2	2	2	2	4	1	1	1	1	1	
Diabetes	16	...	...	...	3	1	2	1	1	2	2	...	1	...	...	1	4
Cerebral Hæmorrhage	104	13	5	7	9	3	9	11	9	5	6	4	10	5	...	4	3	
Heart Disease	300	16	15	17	21	19	27	32	16	14	9	30	24	10	11	19	20	
Arterio-sclerosis	59	5	3	4	8	1	7	...	3	3	2	3	6	5	3	4	2	
Bronchitis	52	3	1	3	6	4	3	1	6	2	3	6	4	2	8	...	...
Pneumonia (all forms)	83	4	6	1	4	5	3	7	1	5	6	17	5	3	6	5	5	
Other Respiratory Diseases	11	...	2	...	...	...	1	1	2	...	1	2	1	...	1	...	...
Ulcer of Stomach or Duodenum	16	1	1	...	...	2	2	2	1	...	2	...	1	...	2	...	2
Diarrhœa, etc. (under 2 years)	18	2	2	1	...	...	...	1	...	1	1	4	2	...	1	...	...
Appendicitis	5	...	...	1	...	...	...	...	1	...	...	1	...	1	...	...	...
Cirrhosis of Liver	2	...	...	1	...	1	...	...	...	...	...	1	...	...	1	...	1
Nephritis	60	7	2	3	4	2	2	2	1	2	3	7	9	7	4	2	3	
Puerperal Sepsis	4	...	...	1	...	...	...	...	2	...	1	...	...	...	...	...	...
Other Accidents and Diseases of Pregnancy and Parturition	2	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	6
Congenital Debility and Malformation,																		
Premature Birth	95	6	4	4	...	6	6	12	2	6	7	11	7	3	9	7	5	
Suicide	17	...	1	...	...	...	2	2	2	...	2	3	1	1	1	1	1
Other Deaths from Violence	57	3	3	2	3	3	2	4	1	5	2	3	6	3	7	6	4	
Other defined Diseases	313	11	15	22	19	20	23	31	18	14	27	36	25	15	7	14	16	
Causes ill-defined or unknown	3	1	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...
Totals	1590	96	78	91	98	83	115	151	75	80	91	174	128	77	84	85	84	251

DERBY RAINFALL, 1930.

We are indebted to Messrs J. Davis & Son for the following Table :—

According to the return of rainfall experienced at Derby during the past year, and taken by Messrs. John Davis and Son, All Saints' Works, there were 180 rainy days in 1930. The amount of rain which has fallen is 43·87 inches, which is 9·925 inches above that of the average of the twenty-one years 1909-1929. The detailed figures are as under :—

	DERBY.			DUFFIELD.			Average for Derby. 1909-1929 inclusive.	
	Inches.	No. of rainy days.		Inches.	No. of rainy days.			
Jan.	... 4·38	... 17	...	4·54	... 21	...	2·52	
Feb.	... 0·79	... 9	...	0·77	... 11	...	2·03	
Mar	... 3·27	... 12	...	3·60	... 16	...	2·06	
April	... 3·30	... 16	...	3·89	... 19	...	1·74	
May	... 2·76	... 14	...	2·87	... 18	...	2·28	
June	... 1·95	... 9	...	1·76	... 13	...	1·96	
July	... 6·575	... 16	...	6·73	... 16	...	2·74	
Aug.	... 2·345	... 21	...	3·09	... 21	...	2·95	
Sept.	... 4·025	... 18	...	5·44	... 19	...	1·89	
Oct.	... 3·41	... 16	...	3·86	... 20	...	2·63	
Nov.	... 3·39	... 15	...	4·35	... 18	...	2·44	
Dec.	... 2·27	... 17	...	2·97	... 17	...	3·15	
	—	—		—	—		—	
	38·465	... 180	...	43·87	... 209	...	28·39	

REFUSE COLLECTION AND DISPOSAL.

In May, a new Department, "The Cleansing and Transport Department," was formed under the direction of Mr. Albert Connor, M.L.P.C. (late Director of Public Cleansing, Halifax). This Department has taken over the whole of the cleansing services of the Borough from the Borough Surveyor, and the various sections are now undergoing reorganisation. They supply the following particulars of work done in 1930.

Privy and Ashpit Cleansing.

Night-work—Privies cleansed	...	...	...	15
„ Ashpits cleansed	...	...	...	42
„ Privy cesspools cleansed	...	...	...	20
Day-work—Dry ashpits cleansed	...	...	...	77

Refuse Collected.

Night-work—Loads, Excreta only	...	...	343
„ „ Ashes and Excreta	...	...	22
„ „ Ashes only	...	...	53
Day-work Ashes, etc.	...	...	38,281 tons
Offal and Trade Refuse carted by Producers	...	...	4,424 tons.

Refuse Disposal.

Disposed of as Manure—by boats	Nil.
„ by customers' own carts	200 tons.
Delivered to Farmers from pits	Nil.
Deposited on Tips	24,471 tons.
Burned in the Destructors	18,234 tons.
Extracted from refuse and sold—	
Old tins and Iron	100 tons.
Moveable ashbins provided—Housing Committee	429
Private Owners	97
	526

Power Vehicles utilised for Cleansing Purposes.

1. Collection of Refuse :—

(a) Electric	...	...	...	...	3
(b) Petrol Motor	...	...	...	...	15
(c) Steam	...	...	...	...	—

2. Street Cleansing and Watering :—

(a) Electric	...	...	...	...	—
(b) Petrol Motor	...	...	...	...	5
(c) Steam	...	...	...	...	—

SEWERAGE.

The following information is supplied by Mr. E. H. Bennett,
Borough Surveyor :—

Sewers cleaned out during the year.

Alvaston Fields ...53	Boulton Lane ... 6	London Road ...12
Britannia Street ... 1	Bath Street ... 2	New Chester St.... 3
John Street ... 5	Canal Street ... 3	Park Street ... 1
Osmaston Road ...36	Carrington St. ... 3	Sowter Road ... 2
Nightingale Rd. ... 2	Calvert Street ...12	Slack Lane ... 2
Bold Lane ... 1	Duke Street ... 1	Victoria St. ... 1
Lower Dale Road 1	Derwent Row ... 4	St. Michael's Lane 1
Dale Road ... 1	Eden Street ...10	Traffic Street ... 1
Bridge Gate ... 8	Full Street ... 9	Wellington St. ... 3
Castle Street ... 2	Graham Street ... 3	Green Lane ... 1
Rivett Street ... 1	George Street ... 1	Total loads ———
Addison Road ...15	Harriett Street ... 1	of Silt ... 216
Back Sitwell St. ... 4	Hope Street ... 4	—————

Manholes cleaned out during the year.

Alvaston Fields 1	Boulton Lane 1	London Road ... 1	} Loads of Silt included in Sewers cleaned out.
Britannia Street 1	Bath Street 1	New Chester St.... 1	
John Street 1	Canal Street 1	Park Street ... 1	
Osmaston Road 1	Carrington St. 1	Sowter Road ... 1	
Nightingale Road 1	Calvert Street 1	Slack Lane ... 1	
Bold Lane 1	Duke Street 1	Victoria Street ... 1	
Lower Dale Road 1	Derwent Row 1	St. Michael's Lane 1	
Dale Road 1	Eden Street 1	Traffic Street ... 1	
Bridge Gate 2	Full Street 1	Wellington St. ... 1	
Castle Street 1	Graham Street 1	Green Lane ... 1	
Rivett Street 1	George Street 1	—	
Addison Road 1	Harriett Street 1	Total ...37	
Back Sitwell St. 1	Hope Street 1	—	

New Sewers laid during the year.

Alvaston Housing Site	...	...	...	...	...	1
Uttoxeter Road Town Planning Road	...	...	...	...	...	1
Alfreton Road	...	...	...	...	...	1
Belper Road...	...	...	...	...	...	1
L.M. & S. Railway, Carriage Side	...	...	...	...	...	1
Sinfin Housing Site	...	...	...	...	...	1
Osmaston Park Road Widening	...	...	...	...	...	1
						—
Total						7
						—

Manholes Constructed during the year.

Rosamond's Ride	...	...	...	...	...	2
Littleover Lane	...	...	...	...	...	3
Alfreton Road	...	...	...	...	...	6
Sinfin Moor	...	...	...	...	...	4
Sinfin Housing Site	...	...	...	...	...	6
Belper Road...	...	...	...	...	...	1
L.M. & S. Railway, Carriage Side	...	...	...	...	...	2
						—
Total						24
						—

Laboratory Facilities. The examination of throat swabs, specimens of sputum, etc., is carried out at the Borough Laboratory, Isolation Hospital. Examinations of specimens of Cerebro-spinal fluid, blood for Widal's reaction, etc., inoculation experiments and more elaborate investigations, as well as the Wassermann test, are made at the County Council Bacteriological Laboratories, in St. Mary's Gate, at an agreed charge per specimen.

Samples of water are analysed either by the Borough Analyst at the County Council Analyst's Laboratory, or by the Analyst at the Borough Sewage Works Laboratory, Spondon.

Milk and foodstuffs are also examined by the Borough Analyst, as above.

Bacteriological Examinations and Inoculation Tests of Milk are carried out at the County Council Bacteriological Laboratories.

POOR LAW MEDICAL OUT-RELIEF.

Mr. Grantham, Clerk to the Public Assistance Committee, reports as follows.

The Borough is divided into six Medical Relief Districts, as follows :—

District.	Wards.	Medical Officer.	Estimated Popn. (at extension of Boro', 1928).
No. 1	Arboretum, Dale, Normanton.	Dr. M. Elsom.	26,469
No. 2	Abbey, Babington, Becket.	Dr. J. W. King.	27,230
No. 3	Bridge, Derwent, King's Mead.	Dr. A. D. Hunt.	25,287
No. 4	Litchureh, Osmaston, Pear Tree.	Dr. P. G. Leeman.	26,351
No. 5	Friar Gate, Rowditch.	Dr. G. A. Russell.	17,690
No. 6	Alvaston, Castle.	Dr. C. F. Druitt.	17,673

Each District Medical Officer has a surgery within their respective District.

Persons requiring Medical Relief must apply to the Relieving Officer for a Medical Order. This is taken to the Medical Officer, who sees the patient and prescribes the necessary medicines. These are dispensed at the Dispensary, Becket Street, where there is a specially-appointed Pharmacist.

No change was affected in the administration of these services on its transfer to the Local Authority from the Board of Guardians.

Ambulance Facilities.

(a) There are two Motor Ambulances kept at the Borough Isolation Hospital for utilisation for Infectious cases and Tuberculosis cases, when necessary.

(b) Two Motor Ambulances are kept at the Fire Station and are available for the removal of General, Medical, Surgical, Maternity, and Accident cases. The Fire Brigade is responsible for their running, and a small charge is made for the use of same.

One Motor Ambulance is kept at the City Hospital, and is used for the removal of cases to that institution.

It is known that four large firms in the town have motor ambulances which are used in the case of accidents and illness to their workpeople.

CLINICS AND TREATMENT CENTRES.

Name.	Situation.	Nature of Accommodation.	By whom provided.	Days and times held.
Maternity and Child Welfare Centres.				
Alvaston ...	Carnegie Library, London Rd.	2 rooms in Library	Local Authority. Free Library Committee, without charge to Health Committee Normanton Rd. Church at fee of 27/6 weekly, plus rates Society of Friends at fee of 10/- weekly St. Paul's Church at fee of 8/- weekly Osmaston Park Tenants' Association at fee of 7/6 weekly Russell St. P.M. Mission at fee of 11/6 weekly Dean St. P.M. Mission at fee of 10/- weekly	Monday, 2—4 p.m.
Rose Hill ...	Normanton Rd. Congregational Church, corner of Rose Hill Street.	3 rooms in Church		Tuesday, 10 a.m.—12 noon
St. Helen's Street ...	Friends' Meeting House, St. Helen's Street	4 rooms in Meeting House		Tuesday, 2—4 p.m. Wednesday, 10 a.m.—12 noon
St. Mark's ...	Mission Church, St. Mark's Rd.	Main room with portion screened off for Doctor 2 rooms in Club		Wednesday, 2—4 p.m. Wednesday, 10 a.m.—12 noon
Elton Road from 8/5/1931, formerly Russell Street	Club Room, Elton Road	2 rooms in Chapel		Thursday, 2—4 p.m.
Dean Street	Chapel, Russell Street	2 " "	Friday, 2—4 p.m.	
Trinity Street	Rear of Nightingale Nursing Home, London Road	2 rooms in Wooden Hut	Friday afternoons	
Ante-Natal Clinics.				
St. Helen's Street ...	56, St. Helen's Street	3 rooms (and eubieles) in premises	Health Committee's premises	Friday, 9.30 a.m.—12 noon; also occasional sessions, Thursday mornings
Trinity Street	Rear of Nightingale Nursing Home, London Road	Partitioned rooms and Doctor's room in Wooden Hut	Derby and Derbyshire Nursing and Sanitary Assoc. (payment made by Corporation under L.G.A., 1929)	In-patients—Tuesday, Wednesday, Thursday and Friday, 11 a.m. Out-patients—First Wednesday in month, 3 p.m.
"Toddlers' " Clinic				
St. Helen's Street ...	56, St. Helen's Street	3 rooms in premises	Health Committee's premises	Wednesday, 2—4 p.m.
Dental Clinics (for expectant & Nursing Mothers and "Toddlers")				
St. Helen's Street ...	56, " "	3 rooms in premises	" "	Thursday, 2—5 p.m.
School Clinics.				
For Minor Ailment Treatment.	Central Clinic, Mill Hill Lane	2 rooms in premises	Education Committee's premises	Every morning
" "	56, St. Helen's Street	2 " "	Health Committee's premises	Mon. & Thurs. aftern.
" "	Pear Tree Council School	2 rooms in School premises	Education Committee's premises	Mon. & Thurs. morns.

CLINICS AND TREATMENT CENTRES—continued.

53

Name.	Situation.	Nature of Accommodation.	By whom provided.	Days and times held.
School Clinics.				
For Minor Ailment Treatmt.	Brighton Rd. Council School	1 room in School premises	Education Committee's premises	Mon. & Thurs. morns.
" (junior children only)	Traffie St. Council School	1 " "	" "	Tues. & Friday afters.
For Minor Ailment Treatmt. (junior children only)	Firs Estate Council School	1 " "	" "	Tues. & Fri. mornings
For Minor Ailment Treatmt.	Allenton School	1 " "	" "	Mon. & Thurs. afters.
"	Nottingham Rd. Council Sch.	1 " "	" "	" "
Dental Treatment ...	Central Clinic, Mill Hill Lane	4 rooms in premises	" "	Daily, morning and afternoon
Ear, Nose, and Throat	" "	2 " "	" "	Friday morning
Eye ...	" "	3 " "	" "	Monday, Wednesday, and Friday afters.
Skin ...	" "	2 rooms in premises	" "	Wednesday afternoons
Consultation ...	" "	2 " "	" "	Tues. & Thurs. afters.
Ultra-Violet Ray ...	Rear of Central Clinic, Mill Hill Lane	Wooden Building	" "	Each morning and afternoon, except Wednesday afternoon
"	Rear of 56, St. Helen's St.	" "	" "	Each morning and afternoon, except Wednesday afternoon
Tuberculosis Dispensary				
Clinics ...	11, Full Street	5 rooms in premises	Health Committee's premises	Monday, 9.30 a.m.—12.30 p.m. (male) Tuesday, 9.30 a.m.—12.30 p.m. (females) Wednesday, 9.30 a.m.—12.30 p.m. (child'n) Wednesday, 2.30 p.m.—5.30 p.m. (workers and new cases) Thursday, 9.30 a.m.—12.30 p.m. (children) Friday, 9.30 a.m.—12.30 p.m. (contacts) Saturday, 9.30 a.m.—12.30 p.m. (new cases and cases for treatment)
Venereal Diseases.				
Clinics ...	Derby and Derbyshire Royal Infirmary, London Road	Special accommodation in Out-Patient Department	Derby & Derbyshire Royal Infirmary (cost apportioned between Derby Borough and Derbyshire County Council on basis of Out-patient attendances)	Mon. evening (males) Wed. evening (males) Sat. afternoon (males) Mon. aftn. (females) Thurs eveng. (females)

LEGAL SUMMARY.

Local Acts (containing Sanitary Provisions).

The Derby Waterworks Acts, 1848, 1868, 1873.

The Derwent Valley Water Acts, 1899, 1901, 1904, & 1909.

The Derby Improvement Act, 1879, Part IV.

The Derby Corporation Tramways Act, 1899, Part III.

The Corporation Acts, 1877 (Sec. 60), 1890, 1901, 1913, 1927.

Acts Adopted.

Public Health Acts Amendment Act, 1890, Part III.
came into operation 20th September, 1899.

Infectious Diseases (Prevention) Act, 1890 (Secs. 7-13),
came into operation 20th February, 1902.

Public Health Acts Amendment Act, 1890, Part II.,
came into operation 12th December, 1904.

Public Health Acts Amendment Act, 1907 (Secs. 19, 22,
23, 25, 26, 27, 28, 30, 31, 33, 34-37, 46, 50-58, 60,
62 to 66, 76, 77, 93 and 95), came into operation
3rd March, 1910, and Secs. 80, 81, 87, 88, 89
and 90 came into operation 4th January, 1910.

Public Health Acts Amendment Act, 1907 (Section 24 and
Part V.), came into operation 9th February, 1915.

Public Health Acts Amendment Act, 1890, Part V., came
into operation 7th February, 1921.

Public Health Act, 1925, Secs. 13, 15, 18, 20, 22, 23, 24,
25, 26, 27, 28, 30, 31, 32, 33, 35, 36, 37, 38, 39,
40, 41, 42, 43, 44, 46, 47, 48, 49, 50, 52, 53, 55,
came into operation 15th March, 1926.

Public Health Acts Amendment Act, 1907, Sec 61, came
into operation 3rd May, 1926.

Bye-laws, Regulations and Orders.

1930. Slaughter-houses.

1927. New Streets and Buildings.

1930. Common Lodging Houses.

1891. Nuisances (bye-laws 1 and 4), additional (only
apply to Borough as it existed prior to Derby
Corporation Act, 1927).

1892. Street Stop Taps.

- 1898. Dairies, Cowsheds, and Milkshops.
- 1930. Markeaton Baths.
- 1930. Houses Let in Lodgings.
- 1930. Public Baths.
- 1904. Regulations as to Branch Sewers in Main Drainage Area.
- 1907. Expectorating in Public Places. etc.. Banana Skins, etc.
- 1908. Factory and Workshop Statutory Rules and Regulations.
- 1910. Underground Rain-water Cisterns (as amended by 1930 bye-laws).
- 1911. Confirming Order of L.G.B. under Sec. 51 P.H.A.A. Act, 1907, declaring certain trades to be offensive.
- 1911. Regulations as to Communications between Drains and Sewers.
- 1912. The Derby (No. 1) Shops Order, 1912.
- 1913. The Derby (No. 2) Shops Order, 1913.
- 1913. The Derby (No. 3) Shops Order, 1913.
- 1913. Regulations as to Communications between Drains and Sewers in Main Drainage Area.
- 1930. Pleasure Grounds.
- 1930. For Preventing Waste, etc., or Contamination of Water.
- 1914. Additional General Rules for the Government of the Mental Hospital.
- 1916. For the Good Rule and Government of the Borough and for the Prevention of Nuisances.
- 1917. Spitting on Footways.
- 1919. The Derby Shops (No. 4) Order, 1919.
- 1919. The Derby Shops (No. 5) Order, 1919.
- 1921. Employment of Children and Street Trading.
- 1921. Tents, Vans, Sheds, and similar structures used for human habitation (as amended by 1930 bye-law).
- 1928. Nursing Homes.
- 1930. Bass's Baths.

II—MATERNITY AND CHILD WELFARE.

INCLUDING REPORTS BY

DR. MCKAIL, Maternity and Child Welfare Medical Officer

AND

DR. HAIGH, "Toddler's" Clinic.

Infantile Mortality during the year 1930.

Deaths from stated Causes at various Ages under One Year of Age.

CAUSE OF DEATH.				Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-3 Months.	3-6 Months.	6-9 Months.	9-12 Months.	Total Deaths under One Year.	
i. Common Infectious Diseases.	{	Measles	...	...	...	...	...	...	...	1	6	2	9
		Scarlet Fever	...	...	...	...	...	...	...	...	...	...	...
		Diphtheria: Croup	...	...	...	...	...	...	...	...	...	...	...
		Whooping Cough	...	...	...	...	...	...	1	...	...	2	3
		Erysipelas	...	...	...	...	...	...	1	...	...	...	1
		Influenza	...	...	...	...	...	...	...	1	...	1	
ii. Diarrhæal Diseases.	{	Diarrhœa, all forms including Enteritis, Muco-enteritis, Gastro-enteritis, &c.	...	...	...	1	1	4	10	1	...	16	
		Gastritis	...	...	...	...	...	...	...	...	...	...	...
iii. Wasting Diseases.	{	Premature Birth	...	...	32	11	3	1	47	5	...	...	52
		Congenital Defects	...	...	6	1	2	...	9	6	1	...	16
		Injury at Birth	...	...	5	1	...	...	6	...	...	...	6
		Atelectasis	...	...	2	...	...	...	2	...	...	...	2
		Atrophy, Debility, Marasmus	...	...	6	...	...	1	7	7	2	3	19
iv. Tuberculous Diseases.	{	Tuberculous Meningitis	...	...	...	...	...	...	...	1	...	1	2
		Other Tuberculous Diseases	...	...	...	...	...	...	...	...	1	1	2
		Abdominal Tuberculosis	...	...	...	...	...	...	...	...	...	...	...
v. Other Causes.	{	Meningitis (not Tuberculous)	...	...	...	...	...	...	...	2	1	1	4
		Convulsions	1	1	2	1	...	2	6
		Bronchitis	1	1	1	2	...	1	5
		Pneumonia	4	6	...	6	16
		Suffocation, overlying
		Syphilis
		Laryngitis
		Other Causes	2	1	3	1	2	4	2	12
TOTALS				...	54	14	5	4	77	32	28	17	18	172

Births (Legitimate 2,300 registered (Illegitimate 107	Deaths {	Legitimate Infants 157	Infantile Mortality = 68.3	} 71.5 per 1,000 reg'd Births
		Illegitimate „ 15	„ „ = 144.0	

One of the 172 infants had been vaccinated.

The following table shews the relationship between feeding and the mortality of infants per 1,000 births from certain diseases among children born between January 1st, 1929, and December 31st 1929.

Method of Feeding.	Breast-fed.		Mixed-fed.		Hand-fed.		All three classes.	
Number of children.	1488		774		52		2314	
Disease.	Number of deaths.	Death-rate per 1,000.	Number of deaths.	Death-rate per 1,000.	Number of Deaths.	Death-rate per 1,000.	Number of Deaths.	Death-rate per 1,000.
Bronchitis and Pneumonia	10	6·7	8	10·3	1	19·2	19	8·2
Diarrhœa (including Enteritis, Gastro-Enteritis and Gastritis) ...	4	2·7	8	10·3	1	19·2	13	5·6
Marasmus	4	2·7	6	7·7	1	19·2	11	4·8
Atrophy and Debility	5	3·4	3	3·9	...	...	8	3·4
Tabes Mesenterica ...	...	...	...	...	...	...	...	...
Various Abdominal Tuberculoses ...	...	...	...	...	...	...	...	...
All other Tuberculous Diseases ...	2	1·4	1	1·3	...	...	3	1·3
Convulsions ...	...	...	...	...	...	...	...	...
Dentition ... ..	...	...	...	...	...	...	...	...
Zymotic Diseases (excluding Diarrhœa) ...	9	6·0	5	6·5	1	19·2	15	6·5
All other Diseases ...	12	8·0	12	15·5	2	38·5	26	11·2
Totals	46	30·9	43	55·5	6	115·3	95	41·0

The following deaths have not been included in the above table for the reasons stated below:—

(1) Some congenital defect incompatible with life	...	...	11
(2) Death taking place owing to debility, no food having been given	...	...	2
(3) The child being prematurely born	...	...	42
(4) Some other cause not associated with the manner of feeding			
	Total	...	60

It will be seen then that of the 2,632 infants born during the year 1929, 155 failed to reach the age of one year.

Number of children notified during the afore-mentioned period	2,632
---	-----	-----	-----	-----	-----	-----	-------

From the above the following deductions must be made:—

(a) On account of no visit being made, or no record being obtainable	...	...	...	286
(b) On account of no visit being made, owing to death occurring before information could be obtained	...	...	...	32
				318

Net total of children who were under the direct observation of the Health Visitors	2,314
--	-----	-----	-----	-----	-------

Percentage of children breast-fed	...	...	...	...	64.3
„ „ „ wholly hand-fed	...	...	...	...	2.3
„ „ „ partly reared by hand and partly by natural means	...	...	...	...	33.4
Death-rate per 1,000 births of children breast-fed	...	...	...	...	30.9
„ „ „ „ hand-fed	...	...	...	...	115.3
„ „ „ „ partly breast-fed	...	...	...	...	55.5

Maternal Mortality. The form of Questionnaire required by the Ministry of Health has been filled up regarding all Maternal Deaths of Derby residents. Where a Medical Practitioner was in attendance on a case, either at home or in an Institution, the form has been completed by him. In other instances where a midwife was in attendance, the forms have been completed by the Maternity and Child Welfare Medical Officer. Details of all maternal deaths occurring in Derby are appended.

Puerperal Sepsis.

	Derby Deaths ...	4		
	Strangers ...	4		
<i>Age.</i>	<i>Cause of Death.</i>	<i>Institu- tion.</i>	<i>Children Left.</i>	
19	Puerperal Pyrexia, Acute Broncho-pneumonia, Cervical Adenitis complicating Pregnancy	N.N.H.	—	
24	Shock, Plastic Peritonitis, Cæsarean Section P.M.	W.H.	1	
30	Septic Peritonitis, Toxæmia of Pregnancy, Sceptic Mouth	N.N.H.	—	
42	Septicæmia, Cæsarean Section Hydramnios ...	D.R.I.	—	

Strangers.

20	Puerperal Septicæmia	W.H.	no record	
26	Streptococcal Peritonitis, Confinement ...	D.R.I.	„	
34	Puerperal Peritonitis, Septicæmia P.M. ...	W.H.	„	
36	Septicæmia, Menorrhagia, Septic Incomplete Abortion, Hyperthyroidism	D.R.I.	„	

Other Maternal Deaths.

	Derby Deaths ...	2		
	Strangers ...	6		
<i>Age.</i>	<i>Cause of Death.</i>		<i>Institu- tion.</i>	<i>Children Left.</i>
32	Pulmonary Embolism, Pelvic Thrombosis, Pre- mature Confinement, P.M. ...	...	Q.M.N.H.	1
41	Ante partum and post partum hæmorrhage, Placenta prævia ...	...	N.N.H.	9

Strangers.

23	Post Partum Hæmorrhage and Shock, Con- tracted Pelvis, Forceps Delivery, P.M. ...	W.H.	no record
27	Dystocia caused by solid malignant ovarian tumour in pelvis, Cæsarean Section and right ovariectomy, Albuminuria com- plicating Labour ...	W.H.	„
31	Inter-peritoneal hæmorrhage, Ruptured ectopic gestation ...	D.R.I.	„
36	Hæmorrhage, Placenta Prævia, Labour ...	D.R.I.	„
38	Shock after operation and abortion, Degenerat- ing Fibroids of Uterus complicating Preg- nancy, Enucleation of Fibroids, Abortion ...	W.H.	„
42	Obstetric Shock following the administration of an Anæsthetic of Chloroform and Ether during an operation for Ante-partum Hæmorrhage ...	D.R.I.	„

D.R.I.=Derbyshire Royal Infirmary.

N.N.H.=Nightingale Nursing Home.

Q.M.N.H.=Queen Mary Nursing Home.

W.H.=Women's Hospital.

Ante-Natal Clinics.

MUNICIPAL.—Held at 56, St. Helen's Street on Friday mornings in each week. An occasional session has been held on Thursday mornings.

343 women attended the Ante-Natal Clinic during the year.

64 were on the register at the beginning of 1930.

279 new cases attended, 11 of whom were not pregnant, and three attended as post-natal cases. 119 were primiparous women.

121 attended before engaging a midwife; 24 of these were primiparæ.

The total number of attendances made was 824.

Talks on diet, hygiene, clothing, preparation for confinement, breast feeding, care of the infant, etc., have been given by the health visitors at the ante-natal clinic.

Sterile Maternity Outfits are on sale at the ante-natal clinic.

VOLUNTARY.—Clinics are also held in connection with the Nursing Association and Nightingale Nursing Home, and the following attendances were made during 1930 :—

Expectant mothers attended—

Out Patients ... 383 made 429 attendances at 12 clinics.

In Patients ... 445 ,, 1,705 ,, ,, 208 ,,

Dental Clinic.—Held at 56, St. Helen's Street on Thursday afternoon in each week. Particulars of treatment given to expectant and nursing mothers are as follows :—

REPORT OF DENTAL TREATMENT FOR YEAR ENDED DECEMBER 31ST, 1930.

		Maternity Centre.	Child Welfare Centre.	Toddlers' Clinic.	Isolation Hospitals, etc.	TOTAL
No. of Cases who attended at the Clinic	...	77	52	176	18	323
No. of Cases actually treated	...	61	46	171	17	295
No. of Cases to whom advice only was given	...	16	6	5	1	28
No. of Attendances made at the Clinic	...	96	56	184	25	361
No. of Fillings	...	3	—	2	24	29
No. of Extractions	...	168	108	416	10	702
No. of General Anæsthetics	...	60	44	171	6	281
No. of Local Anæsthetics	...	—	—	—	—	—
No. of Sealings, Dressings, etc.	...	8	—	—	11	19

Midwives.

No midwives are employed by the Corporation of Derby, nor is any subsidy paid to them.

85 midwives gave notice of intention to practise within the Borough during 1930.

Four of these were *bona-fide* midwives and 81 were certified women.

45 were attached to institutions (30 at the Derby Royal Nursing Institution, 14 at the City Hospital and Poor Law Institution, and one at the Women's Hospital). 16 were connected with the Health Department (including School Nurses) and 24 practised privately.

The 24 midwives practising privately were the only midwives inspected.

Four of these did not attend any cases in the Borough in the year and six practised in private nursing homes (two of these also practising on the district).

These midwives attended 864 cases (834 births and 30 still-births). Medical aid was sought in 192 cases, 134 on account of the mother and 58 on account of the infant.

No maternal death occurred in their practice.

Seven cases of Puerperal Fever were notified and 11 cases of Ophthalmia Neonatorum.

The largest number of cases attended by any one midwife was 119.

37 visits of inspection were paid.

38 visits were paid for other reasons.

12 midwives were interviewed for breaches of C.M.B. rules, etc.

The following list gives details of all the midwives who gave notice of intention to practice during 1930.

Adamson, Nora	...	...	131, Beaufort Street	...	69433	C.M.B. Examination.
Airey, Flores Hilda	...	...	City Hospital	...	51398	C.M.B. Examination.
†Ashley, Adelaide	...	...	Royal Nursing Institution	...	*	C.M.B. Examination.
Balls, Evelyn Louisa	...	...	Royal Nursing Institution	...	75549	C.M.B. Examination.
†Baneroff, Dorothy Mary Moselle	...	...	Royal Nursing Institution	...	*	C.M.B. Examination.
Bennett, Annie	...	...	16, Jackson Street	...	631	In practice July, 1901.
Billing, Winifred Margaret	...	...	City Hospital	...	76784	C.M.B. Examination.
Bird, Ivy Evelyn	...	...	Royal Nursing Institution	...	60240	C.M.B. Examination.
Blenkhar, P....	...	...	City Hospital	...	27029	C.M.B. Examination.
†Bowler, Eunice	...	...	Royal Nursing Institution	...	70383	C.M.B. Examination.
†Bowman, Bertha	...	...	Royal Nursing Institution	...	77478	C.M.B. Examination.
Boyle, Ellen	...	...	City Hospital	...	73780	C.M.B. Examination.
†Branham, Annis	...	...	Nightingale Nursing Home	...	62716	C.M.B. Examination.
Briggs, Winifred	...	...	Nightingale Nursing Home	...	76236	C.M.B. Examination.
Brown, Winifred	...	...	Hill Crest, Steeple Grange, Wirksworth	...	69865	C.M.B. Examination.
†Buckley, Ethel	...	...	Royal Nursing Institution	...	77497	C.M.B. Examination.
Butterworth, Edith Doris	...	...	City Hospital	...	76828	C.M.B. Examination.
†Cam, Nellie	...	...	Royal Nursing Institution	...	75606	C.M.B. Examination.
Charles, Doris Maud	...	...	City Hospital	...	69879	C.M.B. Examination.
Charles, Netta Gertrude	...	...	City Hospital	...	69882	C.M.B. Examination.
Coleman, Winifred	...	...	City Hospital	...	74385	C.M.B. Examination.
Cross, Rosa	...	...	Rivock House, Nunsfield Drive, Alvaston, near Derby	...	48300	C.M.B. Examination.
†Dee, Hilda Florence	...	...	Nightingale Nursing Home	...	75659	C.M.B. Examination.
Delaney, Catherine Agnes	...	...	Borough Isolation Hospital	...	63308	C.M.B. Examination.
Ditchfield, Harriett	...	...	870, Chellaston Road, Allenton	...	15909	C.M.B. Examination.
Dixon, Lily	...	...	23, Pybus Street	...	46427	C.M.B. Examination.
Dobson, Edith Kirkham	...	...	46, Dairy House Road	...	24021	C.M.B. Examination.
Dondney, Margaret	...	...	Nightingale Nursing Home	...	22506	C.M.B. Examination.
Ford, Mabel Elizabeth	...	...	“Glendown,” Cherry Tree Hill, Chaddesden, near Derby	...	58349	C.M.B. Examination.

Gardiner, Elizabeth Maud ...	47, Friar Gate ...	69968	C.M.B. Examination.
Garner, Sarah Ellen ...	217, Baker Street... ..	1677	In practice July, 1901.
Goadby, Alice ...	City Hospital ...	59359	C.M.B. Examination.
Gray, Isabel ...	Royal Nursing Institution	79547	C.M.B. Examination.
†Gray, Marion Stuart... ..	Nightingale Nursing Home	41105	C.M.B. Examination.
Grayshon, Emmeline ...	Church Street, Littleover	55329	C.M.B. Examination.
Halliday, Hannah ...	151, Woods Lane ...	27396	C.M.B. Examination.
Hand, Martha ...	Y.W.C.A., Green Lane ...	61868	C.M.B. Examination.
Handley, Ellen ...	45, Hartington Street ...	30177	C.M.B. Examination.
Heselson, Martha E....	246, St. Thomas' Road ...	24091	C.M.B. Examination.
Hill, Annie Elizabeth ...	258, Osmaston Park Road	60405	C.M.B. Examination.
Hill, Annie May ...	258, Osmaston Park Road	77672	C.M.B. Examination.
Hindes, Alice Ada ...	Royal Nursing Institution	70531	C.M.B. Examination.
Hodgkinson, Eliza Ann ...	Royal Nursing Institution	1728	L.O.S.
Holland, Eleanor Isabel Eulalie	City Hospital ...	58407	C.M.B. Examination.
Hollies, Hilda ...	Denstone, Nunsfield Drive, Alvaston, near Derby ...	48017	C.M.B. Examination.
Holmes, Elizabeth Ann ...	46, Cambridge Street ...	55374	C.M.B. Examination.
†Howe, Evelyn ...	Royal Nursing Institution	*	C.M.B. Examination.
†Hughes, Violet ...	Nightingale Nursing Home	61372	C.M.B. Examination.
Hurd, Harriett Emma ...	City Hospital ...	75193	C.M.B. Examination.
Hutchings, Ann Femima ...	Boundary House, Uttoxeter Road	33167	C.M.B. Examination.
Igo, Abigail ...	97, Cambridge Street ...	27431	C.M.B. Examination.
Jackson, Annie Louisa ...	50, Macklin Street ...	33781	C.M.B. Examination.
Jessop, Lizzie Mills ...	33, Portland Street ...	46505	C.M.B. Examination.
†Jones, Annie ...	Royal Nursing Institution	76430	C.M.B. Examination.
†Keeling, Eleanor Alice Mary	63, Friar Gate ...	54291	C.M.B. Examination.
Lewis, Ellen Louisa ...	Royal Nursing Institution	56942	C.M.B. Examination.
Lumley, Blanche Evelyn ...	Nightingale Nursing Home	78380	C.M.B. Examination.

†Maynard, Charlotte Beatrice	...	Royal Nursing Institution	...	77151	(M.B. Examination.
McAlister, Henrietta Dalton	...	City Hospital	...	67859	(M.B. Examination.
Middlehurst, Ellen ...	...	South Hill House, Radbourne Street	...	75306	(M.B. Examination.
Miles, Winifred	...	47, Markeaton Street	...	73468	(M.B. Examination.
†Mitchell, Alice	...	Women's Hospital	...	73470	(M.B. Examination.
Morrell, Nellie	...	City Hospital	...	75926	(M.B. Examination.
Moulden, Beatrice Helena	...	139, Upper Dale Road	...	27511	(M.B. Examination.
§Murphy, Ellen	...	322, St. Thomas' Road	...	605	L.O.S., 18th January, 1903
Nevill, Susannah	...	72, Elms Street	...	239	In practice July, 1901.
Parrington, Sarah Caroline	...	114, St. Thomas' Road	...	51873	(M.B. Examination.
Pearce, Vida Jane	...	45, Hartington Street	...	59535	(M.B. Examination.
Pitt, Irene G....	...	Royal Nursing Institution	...	77814	(M.B. Examination.
†Pope, Ellen Clarke	...	Queen Mary Nursing Home	...	78668	(M.B. Examination.
Rees, Ethel May	...	Royal Nursing Institution	...	79109	(M.B. Examination.
†Rees, Maggie ...	...	Royal Nursing Institution	...	76575	(M.B. Examination.
†Revill, Eva Frances	...	45, Hartington Street	...	78490	(M.B. Examination.
†Roscoe, Emma	...	Royal Nursing Institution	...	79137	(M.B. Examination.
†Spencer, Isabella	...	Royal Nursing Institution	...	79169	(M.B. Examination.
Steele, Margaret	...	Borough Sanatorium	...	45283	(M.B. Examination.
Taylor, Sarah	...	47, Friar Gate	...	66024	(M.B. Examination.
Tither, Hilda ...	...	Nightingale Nursing Home	...	66032	(M.B. Examination.
Treace, Kate ...	...	53, Wellington Street	...	34739	(M.B. Examination.
Uff, Mary Cookson	...	Offcote Place, Ashbourne	...	74875	(M.B. Examination.
Walls, Elizabeth	...	33, Slater Avenue	...	25791	(M.B. Examination.
Weston, May Edith ...	...	151, Almond Street	...	29917	(M.B. Examination.
Williamson, Martha ...	...	1, Kedleston Street	...	20316	In practice July, 1901.
†Winfield, Ethel Lulu	...	Nightingale Nursing Home	...	76149	(M.B. Examination.
Youson, Agnes Isabelle	...	82, Crewe Street	...	30798	(M.B. Examination.

† These Midwives left Derby during 1930.

§ Died 20th April, 1930.

* Number not supplied.

Medical Aid Forms.—382 reports were received by the Medical Officer of Health during the year. 269 of these were on account of the condition of the mother and 108 of the baby, while five related to both mother and infant.

The following is a classification of conditions for which Medical help was sought :—

Ruptured Perineum	...	...	...	65
Prolonged and difficult labour	...	...	...	49
Abnormal presentation	...	...	...	27
Hæmorrhage	...	...	...	25
Rise of temperature	...	...	...	17
Adherent placenta	...	...	...	10
Uterine inertia	...	...	...	8
Threatened miscarriage	...	...	...	8
Oedema	...	...	...	7
Placenta prævia	...	...	...	5
Albuminuria	...	...	...	4
Fœtal distress	...	...	...	4
Fits (ante-natal)	...	...	...	3
Varicose veins	...	...	...	3
Dyspnœa	...	...	...	3
Sore throat	...	...	...	2
Excessive sickness	...	...	...	2
Heart attack	...	...	...	2
Phlebitis	...	...	...	2
Contracted pelvis	...	...	...	1
Prolapse of cord	...	...	...	1
Anuria	...	...	...	1
Hydramnios	...	...	...	1
Chorea	...	...	...	1
Other conditions in mother	...	...	...	23
Still-births	...	...	...	12
Discharging eyes	...	...	...	34
Deformities of infant	...	...	...	11
Prematurity	...	...	...	8
Convulsions (infant)	...	...	...	5
Watering blisters	...	...	...	3
Fracture of arm	...	...	...	1
Feebleness	...	...	...	15
Skin eruptions	...	...	...	6
Other conditions in infant	...	...	...	18

Medical Practitioners.—The total fees paid to local Medical Practitioners in respect of emergency cases attended in accordance with Section XIV. of the Midwives Act, 1918, amounted to £370 15s. 6d. in respect of 302 claims.

Artificial Feeding.

During the year, 17 notifications of proposals to substitute Artificial Feeding were received in accordance with rules of the Central Midwives Board. This number was an increase of two as compared with the number received during the year 1929, and is equal to a percentage of 0·73 of the notified Derby births. In two instances, Artificial Feeding was supplemental to Breast Feeding.

The reasons for the substitution are given in the following table—

Malformation of infant	...	...	...	3
No lactation or insufficient	...	...	...	3
Illness, etc., of mother	...	...	...	3
Doctor's advice	...	...	...	5
Mother's own initiative	...	...	...	1
Child would not take breast	...	...	...	2

Maternity Hospital.

Under the agreement between the Royal Derby and Derbyshire Nursing and Sanitary Association and the Derby Corporation, the sum of £12 9s. 0d. was paid in respect of the maternity fees of six necessitous mothers requiring institutional treatment during the year.

Nursing in the Home.

(a) The Royal Derby and Derbyshire Nursing and Sanitary Association provides District Nurses on application at an agreed charge per visit (and also Midwives and Maternity Nurses). It is an approved training school for Midwives, and pupils are trained there in conjunction with the Nightingale Nursing Home.

(b) Arrangements have been made with the Royal Derby and Derbyshire Nursing and Sanitary Association to provide skilled nursing for cases of Pneumonia and Puerperal Pyrexia occurring in the Borough who require it, and also for cases of Pneumonia after Measles and Whooping Cough, at a fixed charge per visit.

Baby Incubators.

Three infants were placed in these incubators during the year.

Maternity and Child Welfare Centres.

There were seven Welcomes or Maternity and Child Welfare Centres in existence in 1930, six of these managed by the Corporation Health Department and one managed by the Nightingale Nursing Institution.

St. Helen's Street and Rose Hill Welfares are still the largest centres, and the attendances have steadily increased since 1926. So much so is this the case at St. Helen's Street that the accommodation is taxed to its utmost, and very great overcrowding results at the afternoon session, which is not in the best interests of the work.

The greatest increase has taken place at Russell Street (now Elton Road), where the attendances have almost doubled since 1926.

St. Mark's Welfare, which was opened in November, 1928, has been disappointing in its development. Although it is situated in a growing district, there were 252 less attendances in 1930 than in 1929. The Welfare is held in the morning, and the premises are very poorly heated in winter, which may account for the meagre attendance.

There has also been a slight falling off in attendances per child at Dean Street.

In this connection, it is interesting to note the relationship of the average attendances to the suitability of the premises.

At Rose Hill, Alvaston, and Elton Road, where the buildings are the least unsuitable for Welfare Centres, the average has been 9·8, 9·4, and 9 respectively ; at St. Helen's Street, 8·5, and at Dean Street and St. Mark's, where the premises leave much to be desired, the average attendance has been 7·5 and 4·2 respectively.

There is now need for a Welfare Centre on or near the Morley Estate, which is a growing district. The existing Welfare Centres are too far distant for many of the mothers to make use of them.

Each Welfare Centre is run by a health visitor, who visits in the district in which the Welfare is situated.

Two clerks attend at the afternoon sessions and one at the morning sessions.

Voluntary helpers assist at each Welfare Centre.

Talks to mothers are given throughout the year by a senior health visitor.

Chief defects found at first attendance.

The following are the chief defects found at the first attendance—

	<i>No. of cases.</i>
Feeding difficulty	81
Other digestive disturbances	331
Thrush	102
Discharge from umbilicus	103
Umbilical hernia (in most cases very slight)	123
Inflammatory condition of eyes	27
Otorrhœa	9
Eczema	7
Other skin conditions	121
Bronchitis	23
Congenital heart disease	2
Mental defect	4
Talipes	4
Hæmatoma of sterno-mastoid	7
Cephalhæmatoma	2

Definite signs of rickets were found in 162 children attending the Welfare Centres.

Flabby muscles were noted in 186 cases.

Voluntary Helpers.—The Voluntary Helpers have again rendered excellent service to the Department.

Mrs. Brown.	Miss Harwood.	Mrs. Seudder.
Mrs. Bryden.	Miss Henson.	Miss Simpson.
Miss Evans.	Mrs. Lonnon.	Mrs. Skirrow.
Miss Ford.	Mrs. Murdock.	Mrs. Sowter.
Mrs. Giddings.	Mrs. Owen.	Mrs. Treece.
Mrs. Harwood.	Mrs. Robinson.	

Attendances at Welfare Centres.**MUNICIPAL—**

CENTRE.	Welcomes held.	No. of Children attending.	Attendances.			No. of Children weighed.	No. of Children seen by Doctor.
			Mothers.	Babies.	ex-Babies.		
St. Helen's ...	97	685	5442	4919	913	4814	2185
Rose Hill ...	95	589	5706	5009	798	4943	2388
Dean Street ...	47	219	1832	1522	222	1481	681
Alvaston ...	45	263	2571	2156	319	2090	1093
Elton Road* ...	47	433	3566	3008	898	2917	1308
St. Mark's ...	49	233	828	817	161	791	365
Totals ...	380	2422	19945	19431	3311	17036	8020

Number of Children making first attendances in 1930.

CENTRE.	Under 1m'th	1-3 m'ths	3-6 m'ths	6-9 m'ths	9mth's 1 year.	1-2 years.	2-3 years.	3-4 years.	4-5 years	Total.
St. Helen's ...	110	168	55	25	6	24	19	9	8	424
Rose Hill ...	62	170	44	12	7	18	7	9	17	346
Dean Street ...	2	26	64	14	4	5	3	2	2	122
Alvaston ...	37	59	20	9	1	7	1	5	6	145
Elton Road* ...	57	87	35	9	9	11	11	13	9	241
St. Mark's ...	21	37	8	4	1	1	2	5	1	80
Totals ...	289	547	226	73	28	66	43	43	43	1358

Number of Babies entirely artificially fed at first visit.

CENTRE.	Under 1 month.	1-3 months.	3-6 months.	6-9 months.
St. Helen's ...	19	38	23	9
Rose Hill ...	8	41	18	4
Dean Street ...	1	2	17	8
Alvaston ...	7	11	11	4
Elton Road* ...	5	22	15	7
St. Mark's ...	2	6	3	2
Totals ...	42	120	87	34

*Transferred from Russell Street, 8th May, 1930.

VOLUNTARY.—The following are details of attendances, etc., at the Trinity Street Welcome, which is managed by the Derby and Derbyshire Nursing Association.

No. of Sessions held during 1930	...	...	...	48
(a) Total number of attendances at the Centre during 1930—				
(1) By children under one year of age	...	...	...	2,177
(2) By children between the ages of one and five years	...	...	...	2,038
(b) Total number of children who attended at the Centre for the first time during 1930 :—				
(1) Children under one year of age	...	...	...	515
(2) Children between the ages of one and five years				5

OPHTHALMIA NEONATORUM.

Cases notified	25
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Further information and the table required by the Ministry will be found on page 192.

PUERPERAL FEVER AND PUERPERAL PYREXIA.

Details of cases of Puerperal Fever and Puerperal Pyrexia which have occurred during 1930 will be found in the Section dealing with Infectious Diseases.

All cases of Puerperal Fever and Puerperal Pyrexia occurring at Home have been investigated by a Health Visitor, and where cases have occurred in Institutions, these have been followed up on discharge, until recovery was completed. Records of cases occurring in Institutions have been completed by the Medical Practitioner in charge of the case.

PEMPHIGUS NEONATORUM.

Eleven cases of Pemphigus Neonatorum were investigated during the year. In most cases the infection was very mild.

5 cases occurred on one midwife's practice (1 case in January, 1 in March, 2 in May, and 1 in June).

2 cases occurred in another midwife's practice, and 4 cases occurred in the practice of the Nightingale Nurses.

Maternity and Nursing Homes :—

	Maternity Homes.	Nursing Homes.	Maternity and Nursing Homes.
Registered at 31st December, 1929	1	1	3
(1) Applications for Registration	0	0	1
(2) Homes Registered	0	0	1
(3) Orders made refusing or cancelling Registration	0	1*	0
(4) Appeals against such Orders	0	0	0
(5) Cases in which Orders have been			
(a) confirmed on appeal	0	0	0
(b) disallowed	0	0	0
(6) Number of Applications for exemption from Registration	0	4	2
(a) granted	0	4	2
(b) withdrawn	0	0	0
(c) refused	0	0	0
On Register at end of year	1	0	4

*This Home was re-registered on 2nd April, 1930, on removal from one address to another, but the registration was cancelled on the request of the keeper on 6th November, 1930.

Nursing Homes.

Five Nursing Homes registered under the Nursing Homes Registration Act, 1927, were in existence at the beginning of 1930.

The registration of one of these was cancelled at the request of the keeper.

One new Nursing Home was registered in 1930.

The Nursing Homes registered are small,

1 having accommodation for 8 cases (maternity & medical).

1	„	„	6	„	„
---	---	---	---	---	---

1	„	„	2	„	„
---	---	---	---	---	---

1	„	„	2	„	„
---	---	---	---	---	---

1	„	„	2 cases (maternity).
---	---	---	----------------------

9 visits of inspection were paid.

Home Helps.

The scheme for the provision of Home Helps for maternity cases came into being in 1928.

The scale of charges proved too high, and there was little or no demand for their services.

The scale was revised in November, 1929, and in that year five applications for home helps were made. In 1930, 19 applications were received. The full fee was paid in four cases, and a reduced fee in the other fifteen.

A visit of inspection is paid by a health visitor while the home help is in attendance.

The demand for home helps has been much less than was anticipated when the provision of home helps was first considered, but in a very limited way the scheme has been quite successful, and the services of the home helps have in most cases been greatly appreciated.

Births.

2,791 notifications were received during 1930 under the Notification of Births Act, 1907. Of these, 2,335 were live births and 88 were still-births relating to Derby residents. 355 were live births

and 13 were still-births relating to non-residents. The details were as follows :—

	<i>Derby Residents.</i>		<i>Non-Residents.</i>	
	<i>No.</i>	<i>Percent- age.</i>	<i>No.</i>	<i>Percent- age.</i>
Live Births.				
Notified by Midwives	1370	49	21	0·8
„ Doctors	312	11·2	8	0·3
Notified from Institutions by				
Midwives	563	20·1	241	8·6
„ „ by Doctors	90	3·2	85	3·0
Still-Births.				
Notified by Midwives	33	1·2	—	—
„ Doctors	21	0·8	—	—
Notified from Institutions by				
Midwives	24	0·9	6	0·2
„ „ by Doctors	10	0·4	7	0·3
Totals	2423	86·8	368	13·2

It will thus be seen that of the total births which took place in Derby during 1930, 368 or 13·2% were in connection with non-residents.

687, or 28% of total births relating to residents took place in institutions.

2,407 births were registered.

The following table relating to Births (including Still-Births), notified during 1929 and 1930, shows the number of the child in the family.

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	No Record.	Total.
1929	824	599	317	219	125	109	69	57	35	28	14	6	2	—	4	—	1	32	2,441
1930	835	573	336	214	144	107	73	47	28	20	9	6	4	2	2	1	1	21	2,423

STILL-BIRTHS.—101 Still-births were notified (17 being notified by Medical Practitioners and 84 by Midwives). 88 were in respect of Derby residents, and 13 non-residents. There were 96 burials of still-born children in the Derby cemeteries during the year. 112 still-births were registered, of which 21 related to non-residents. Of the 91 still-births registered relating to Derby residents, 3 were illegitimate. Percentage of still-births to live births registered was 3·8.

92 still-births were investigated.

34 still-births occurred amongst primiparous women, 32 of whom had had ante-natal supervision from a Doctor privately or at a clinic.

2 were emergency cases where the mother had had no ante-natal supervision.

A Doctor was present at birth in 23 of these cases.

In 10 cases the foetus was stated to be macerated.

Of the remaining 58 still-births :—

16 occurred in families with				1 previous living child.			
5	„	„	„	2	„	„	children.
4	„	„	„	3	„	„	„
9	„	„	„	4	„	„	„
7	„	„	„	5	„	„	„
7	„	„	„	6	„	„	„
4	„	„	„	7	„	„	„
1	„	„	„	8	„	„	„
1	„	„	„	9	„	„	„
2	„	„	„	10	„	„	„
1	„	„	„	16	„	„	„

In 28 of these cases a Doctor was present at birth.

In 14 cases the foetus was stated to be macerated.

Children Act, 1908.

On Register taken over from Guardians on 1st April, 1930	22
Added during the period 1/4/30 to 31/12/30	10
Removed from Register—	
Children taken out of Borough	5
„ „ to relatives in Borough	5
„ adopted	2
„ reached seven years of age	2
	— 14
On Register at end of year	18

76 visits were paid by Health Visitors to these children.

One child who had been living in the County came to an address in Derby, and on enquiries being made it was found that the child had been adopted. Certain circumstances led to the case being reported to the National Society for the Prevention of Cruelty to Children. They obtained a conviction, and sentence of two month's hard labour was passed on the woman who had adopted the child.

MILK FOR EXPECTANT AND NURSING MOTHERS AND FOR INFANTS.—The following amounts were supplied during the year :—

	Sold at cost price.	Supplied free.	Total.
Dried Milk	6,903½ lbs.	5,001½ lbs.	11,905 lbs.
Grade A milk	—	1,042 pints	—
New Milk	—	761 „	—

Work of the Health Visitors.**SUMMARY.****1. MOTHERS.**

Visits <i>re</i> Expectant Mothers	395
„ Mothers (Post Natal)	6

2. CHILD WELFARE.

Visits <i>re</i> Births	2,567
Re-Visits <i>re</i> Births (Under 1 year)	11,371
„ Children 1-5	12,788

Visits <i>re</i> Still Births	...	...	...	...	92
„ Deaths of Infants under 1 year	...	...	...	...	170
„ Medical Help Forms (Midwives)	...	...	...	...	382
„ Home Helps	...	...	...	...	30
„ Maternal Deaths	...	...	...	...	3
3. TODDLERS.					
Visits and Re-Visits <i>re</i> 'Toddlers' Clinic	...	...	...	...	1,544
4. INFECTIOUS DISEASES, EXCLUDING TUBERCULOSIS.					
Visits <i>re</i> Cases of Whooping Cough	...	...	...	...	78
„ Ophthalmia Neonatorum	...	...	...	...	32
Visits to other Infectious Diseases (Scarlet Fever, Diphtheria, Measles, Pneumonia, etc.)	...	...	...	...	4,679
5. OTHER PUBLIC HEALTH WORK.					
Visits <i>re</i> Infant Life Protection	...	...	...	...	76
„ Outworkers	...	...	...	...	350
„ Workrooms	...	...	...	...	654
„ Workplaces	...	...	...	...	38
„ Sanitary Conveniences for Females	...	...	...	...	478
6. MISCELLANEOUS.					
Visits <i>re</i> Special Investigations	...	...	...	...	739
„ Enquiries	...	...	...	...	761
Miscellaneous Visits	...	...	...	...	82
Unsuccessful Visits (out, removals, etc.)	...	...	...	...	2,719
Assisted at Mothers' Welcomes (Mornings and Afternoons)	...	...	...	...	465
Assisted at Toddlers' Clinics	...	...	...	...	50
Assisted at Ante-Natal Clinics	...	...	...	...	122

THE HON. SECRETARY OF THE INVALID CHILDREN'S AID ASSOCIATION (AN ALLIED COMMITTEE) REPORTS AS FOLLOWS :—

“ I enclose a summary of the work which the above Association did in 1930. It has worked in close conjunction with the Health Office, the Doctor to the Education Committee and the Child Welfare Centres. Many of the children for whom convalescent treat-

ment has been arranged, or extra nourishment provided, having been referred to the I.C.A.A. from three sources.

Number of children assisted in 1930	...	184
Convalescent treatment	...	63 (including 8 T.B. children).
*Hospital treatment	...	2 (including 1 T.B. child).
Extra nourishment	...	91 (including 8 T.B. children).
Clothing	...	15 (including 2 T.B. children).
Surgical instruments	...	22
Special carriages	...	2
Various	...	5

* One child has been at the Royal Sea Bathing Hospital, Margate, all the year with a tubercular hip, which is responding to treatment.

These figures do not necessarily correspond with the number of cases which have been assisted since one family may be helped in several ways.

Sixteen of the extra nourishment cases have been sent from the Child Welfare Centre, and the I.C.A.A. has co-operated in giving patent foods of various descriptions."

" TODDLERS."

REPORT BY DR. HAIGH.

A recent circular issued conjointly by the Ministry of Health and the Board of Education points out that " it is grossly uneconomic to allow the health and stamina of infants to deteriorate till five years old, and then to spend large sums of money in trying to cure them between the ages of five and fifteen." The Chief Medical Officer of the Board of Education, reviewing the history of the School Medical Service since its inception in 1907, points out that in spite of the magnificent remedial work done, " the entrants coming into school at five years of age show a steady and undiminishing stream of defect or physical impairment." School Medical Officers find, however, that entrants are cleaner, more comfortably and healthily clad, and in a healthier condition

as regards hearts, lungs, bones, and digestive organs, and that existing defects are not so gross in character. On the other hand, unhealthy conditions of throat and nose, functional nervous defects, dental decay and defective nutrition are very common. *Nutrition and nurture are the basal factors*, and all recent work on dietetics goes to show that a properly balanced diet is the normal way of ensuring freedom from catarrhal states, early dental decay, rickets and proneness to "catch" infective disease. We now have established scientific evidence that a daily cup of milk (even skimmed) will maintain steady healthy development in growing children better than all other foods.

The key to the problem of the health of the school child is the fitness of the pre-school child. Many grave forms of illness appear to be trivial in their early stages, and parents for many reasons, such as undue optimism, that it is nothing of importance, the fear of incurring heavy expense for doctors' bills, or poverty combined with some ignorance, often fail to seek medical advice. Many are compelled to get what help they can in the crowded out-patients' departments of hospitals, but for these no means of following-up has been devised.

The Health Department seeks to maintain the young child in such health that it is robust enough to meet the risks of exposure to disease and to prevent the establishment of such unhealthy conditions as rickets or a catarrhal state, which provide the soil on which most of the more damaging complications of otherwise mild infections can flourish.

The Child Welfare Department, by means of its Health Visitors and Clinics, endeavours to keep a watchful eye on such early deviations from the norm of health which comes to its notice, but much more is required to be done to bring the civic health authorities into immediate touch with the homes of the needy and sick. The Local Government Act of 1929, should greatly encourage this, as it provides the possibility of more intimate co-operation between the Public Assistance Visiting physicians and ancillary Relief Agencies, with the opportunity of direct reference to suitable agencies for the prevention of ill-health, of which our "Toddlers" Clinics and domiciliary visits to the pre-school child form an important branch.

The "Toddlers" Clinic was commenced in September, 1925, and is intended to provide a continuation of the expert medical supervision which has been developed in the work of Welfare Centres, so popular for infants that there is neither space nor time available for the careful study of the growing child. The personal interview has considerable educational value both for mother and child. Those attending for advice are referred, when necessary, for treatment by specialists, or to other clinics; large numbers are presented for early dental treatment; cases of rickets and other nutritional disorders and those debilitated by recent infective disease are sent for courses of treatment to the Light clinics. Mothers are greatly interested in the normal development of their children, and the child's weight is recorded periodically.

Consultations are held once a week, and depend on the Home Visitations of the Health Visitor, who now devotes the whole of her time to this work.

Co-ordination.

Co-ordination is achieved with the Maternity and Child Welfare Medical Officer by the reference of ex-babies found to be suffering from defects at the various Infant Clinics and by the automatic transfer of birth cards about the fourth year. By arrangement with the Education Authority, the Light Clinics are available, and the School Dentists devote a part of one session weekly to the pre-school child. Further co-ordination has now been established with the School Medical Service by the introduction of card records giving the defects found, date of references for treatment to Institutions, etc., which cards are passed to the School Medical Officer for inclusion with his records, when it has been ascertained that the child has commenced attendance at a Public Elementary School.

The special problem of young children, many aged three, already attending schools, who could not be reached by the Maternity and Child Welfare Department nor brought under the observation of the "Toddlers' " Department, has been solved by the institution, in 1929, of annual routine medical inspection by the School Medical Officers of *all children under five* attending Public Elementary Schools, over and above the children in Nursing Schools and recognised Nursery Classes. In this way a group numbering over 500

will be examined yearly and a further lacuna in the continuous supervision of children of pre-school age stopped. There is no doubt that these several measures will lead to a reduced percentage of defects and a better bill of health at the statutory age period of five years.

TODDLERS' CLINICS.

Clinics held during 1930 ...	50	.
Children attended ...	...	312
Total attendances ...	...	611

Many children were found to be suffering from a combination of defects, but they may be roughly classified into groups :—

Carious teeth and associated mouth conditions ...	...	150
Dietetic faults, associated with constipation, loss of appetite, or skin eruption ...	...	29
Rickets in its various manifestations ...	...	40
Faulty nutrition and anæmia ...	...	31
Nervous, unstable and difficult children ...	...	15
Debility following some infectious disease ...	...	17
Affections of the alimentary system, mainly oxyuris in- festation... ..	...	15
Affections of the ear, nose, and throat ...	...	40
Affections of the respiratory system and catarrhs ...	...	17
Affections of the skin and scalp ...	...	28
Affections of the eyes and eyelids and squint ...	...	11
Affections of the glands ...	...	8
Specific infections such as whooping cough, rheumatism, etc. ... ..	...	8
Affections of the nervous system and defective brain development ...	...	11
Various defects ...	...	11

References to other agencies were made as follows :—

To Dental Clinic ...	...	158
To Light Clinic ...	...	36
To Skin Clinic ...	...	5
To Institutions... ..	...	23
To Derby Invalid Children's Aid Association ...	...	4

TABLE TO SHOW IMPROVEMENT IN DEATH RATE OF CHILDREN 1-5 YEARS.

Year.	Population	Births	Deaths under 1 year	Per cent of Total Deaths.	Deaths 1-5 years.	Mean Deaths 1-5 by four-yearly groups.	Per cent of Total Deaths.	Deaths over 5	Per cent of Total Deaths.	Total Deaths.
1	2	3	4	5	6	7	8	9	10	11
1907	125,774	3,152	377	21.1	233	194.5	10.9	1,174	65.8	1,784
1908	127,583	3,321	359	21.4	157	186.0	11.8	1,162	69.3	1,678
1909	129,411	3,220	391	22.8	200	189.25	11.0	1,121	65.5	1,712
1910	131,256	3,163	266	18.4	125	178.75	12.4	1,053	72.9	1,444
1911	123,648	2,921	360	20.7	177	164.75	9.5	1,200	69.1	1,737
1912	124,544	2,914	231	15.2	116	154.5	10.0	1,174	77.2	1,521
1913	125,462	3,013	298	18.9	102	130.0	8.3	1,176	74.6	1,576
1914	125,562	3,011	276	16.8	120	128.75	7.9	1,241	75.8	1,637
1915	126,389	2,737	258	14.0	179	129.25	7.0	1,406	76.3	1,843
1916	117,027	2,616	247	14.5	113	128.5	7.5	1,344	79.0	1,704
1917	117,027	2,332	220	14.1	156	142.0	9.1	1,188	76.0	1,564
1918	118,220	2,335	213	11.2	176	156.0	8.2	1,510	79.5	1,899
1919	123,930	2,522	228	14.0	100	136.25	8.4	1,299	80.0	1,627
1920	128,808	3,358	244	17.5	62	123.5	8.8	1,084	77.1	1,390
1921	131,800	3,010	207	13.9	80	104.5	7.0	1,201	80.7	1,488
1922	132,400	2,753	195	13.0	67	77.25	5.2	1,235	82.5	1,497
1923	132,800	2,613	168	10.9	85	73.5	4.8	1,287	83.6	1,540
1924	133,700	2,569	159	10.5	88	80.0	5.3	1,266	83.7	1,513
1925	134,400	2,527	187	11.7	71	77.75	4.8	1,337	83.8	1,595
1926	136,600	2,596	173	11.5	64	77.0	5.1	1,258	84.1	1,495
1927	136,400	2,466	168	9.8	106	82.25	4.9	1,434	83.9	1,708
1928	138,900	2,679	161	10.6	67	77.0	5.0	1,293	85.0	1,521
1929	140,500	2,681	171	9.0	91	82.0	4.3	1,635	86.2	1,897
1930	140,500	2,407	172	10.8	67	82.75	5.2	1,351	85.0	1,590

iii.—SCHOOLS
AND
SCHOOL CHILDREN.

REPORT OF THE
SCHOOL MEDICAL OFFICER,
INCLUDING SPECIAL REPORTS

BY

DR. MORRISON, Nursery School Entrants ;

MR. LAURIE, Artificial Light Treatment ;

DR. WRAY, Tuberculosis in Children ;

MR. STAFFORD, Dental Services ;

MR. MOUNTFORD, Physical Training.

I have pleasure in presenting herewith the Annual Report on the School Medical Service for the year 1930.

Several important staff changes took place during the year. Dr. A. E. Brindley, the School Medical Officer, retired on superannuation in April, 1930. His resignation was regretted by all. He had been responsible for the School Medical Service since its inception, in 1908, and had guided and fostered its development with the greatest interest and enthusiasm. His ambition was always to improve the health of the child, and his kindly personality radiated goodwill and happiness to all members of his staff. Mr. F. L. A. Greaves, the School Aurist, died suddenly in April. He had been associated with the Education Committee since 1920, and his services had been greatly appreciated. He was succeeded in June by Mr. R. L. Flett. We have also lost the services of Mr. W. H. Hanbury, who retired in August. For years he was the liaison officer between the Education Office and the School Clinic, and he spared himself neither time nor labour to tender the best service possible. He was essentially the best type of public servant, efficient and economic, and had, withal, a charming personality.

Owing to shortage of staff, the programme for 1930 was not completed. In the Municipal Secondary Schools the annual inspection of each pupil could not be undertaken, and only the entrants and those in the age groups 12 and 15 years were examined. In addition, the Derby School was not visited at all. This inspection, however, will be carried out early in 1931. In endeavouring to complete the medical inspection of the elementary schools, some of the work, particularly of special examinations and ophthalmic cases, fell into arrears. It is hoped, with the prospect of increased staff, to cope more satisfactorily with the work in 1931.

One of the developments of the Service was the opening in January of a Minor Ailments Clinic for the children attending Nottingham Road School. This district, the population of which has rapidly grown within the last few years, had been poorly served previously in this respect, as St. Helen's Street, the nearest clinic, is about two miles from the school. The large number of children who soon attended the new clinic demonstrated clearly that its existence was

fully justified. This clinic, like the other branch clinics, is open two sessions weekly.

The new Central Clinic, Mill Hill Lane, has now been open for a full year, and its extra accommodation, superior fittings, and more central situation have been appreciated by parents, children, and staff.

During the year all the schools have been provided with a simple first-aid outfit, comprising bandages (roller and triangular), lint, cotton wool, iodine, scissors, etc., and arrangements have been made to replenish direct from the Central Clinic. It is hoped by this measure to prevent septic conditions arising from simple injuries, possibly to minimise the consequences of more serious accidents, and incidentally to inculcate upon the child the value and importance of bodily cleanliness.

During the year nine children were admitted to Bretby Orthopædic Hospital with non-tubercular conditions, and the results have been uniformly good. The utilisation of the Bretby Hospital has certainly met a long-felt need. In addition to the highly specialised treatment obtained, the Hospital has the undoubted advantage of being within easy range of Derby. This simplifies transport, and also gives the much-desired privilege of allowing parents to visit frequently their children. Previously, when children were sent to various institutions throughout the country, the prospect of a child being separated for a long period from his people was often sufficient to cause a fond but foolish parent to decline treatment. The time has now come, however, when the problem of the cripple should have more detailed and general consideration. At present there are several institutions and associations interested, but there is no attempt made to co-ordinate their various activities. The chief points in a well-defined scheme are ascertainment, treatment, after-care, and special training, and it is obvious that the School Medical Service—*per se*—cannot adequately deal with the whole problem.

The year 1930 has been a trying one with its intense industrial depression, decreased employment and consequent reduction of income. This, as might be expected, has resulted in an increase of insufficient clothing (1·46% to 1·82%), defective footgear (1·76%

to 2·58%), and malnutrition from 3·3% to 3·6%. The figures for malnutrition would probably have been higher than this had not the Education Committee, with commendable promptitude, established additional feeding centres where the poorest children in the town may obtain free a hearty and nourishing dinner. In addition to this, in many schools a glass of milk may be procured at a small cost. This is an excellent practice which I should like to see more generally adopted, particularly in infant departments. It is, however, a somewhat striking commentary on the situation that the Invalid Children's Aid Association had to assist 972 cases in 1930, as compared with 186 in 1929. The majority of these applications was for extra nourishment. The increase in the number of ill-nourished children was also reflected in the increase of those who were ill-shod. In times like these, speaking generally, children probably get a sufficiency of food (it is the quality and variety of the diet which deteriorate), but they do suffer from poor clothing and footwear. I have made some reference to the possible consequences of this condition in my note on rheumatism.

The persistently large number of children discovered during the year to be suffering from cardiac abnormalities is disquieting. As stated in the body of the Report, the vast majority of these children are subject to rheumatism, and it is a matter for real anxiety that the prevalence of this disease does not apparently diminish. The statistics not only for Derby, but for the whole country, show that heart disease is the cause of more deaths by far than any other disease. In Derby alone, indeed, about 19% of the total deaths is due to cardiac trouble. One cannot, of course, say definitely how much of this is due to rheumatism in early life, but it is safe to assume that a heart whose muscle fibres are weakened and whose delicate protective lining is profoundly altered, which occur in rheumatism, is not likely to withstand effectively the increasing demands of our modern life. How are we to stamp out rheumatism, or at least to minimise its evils? As we are in the dark respecting its actual cause, it is advisable, in my opinion, to attack along the whole line, and I should therefore make the following suggestions:—

(1) TONSILS.—It is believed that one-third of all cases of rheumatism arise in the tonsils. Although it has not been shown that where rheumatism is established the enucleation of diseased tonsils

will prevent its recurrence, it has been clearly indicated that if septic tonsils are removed previously the chances of escaping infection are much greater. I consider, therefore, that attention to the throat and nose of the school entrant is of vital importance.

(2) DAMPNESS.—Rheumatism is a disease at least associated, if not actively predisposed to, by cold and damp conditions. The observations of the School Medical Officer are supported by the opinion of teachers that in times of industrial stress it is the foot-gear of children which show it most clearly. It is recognised, of course, that the child spends only about one-sixth of his day in school, but it would be a moral as well as a physical gain if all school children could change into dry shoes and stockings on entering school each session. It would certainly, in my opinion, not only reduce the incidence of rheumatism, but promote the well-being of the child mentally and physically, for every shade of opinion is unanimous about the devastating effect of cold feet.

(3) INSUFFICIENT FOOD.—Several medical men aver that rheumatism is due to lack of protein or alternatively of Vitamin A. If either of these theories is correct, we have the remedy at hand in milk. Many local Authorities, apart altogether from the aspect of the prevention of rheumatism, have recognised the practical value of this food and have arranged a scheme whereby milk is provided daily in sealed bottles at a cost of one penny per one-third pint. It would be worth while embarking on a scheme of this kind in Derby. From my experience, I believe that all but a small proportion of parents would gladly support it. Certainly its benefits would speedily be appreciated.

(4) SEPTIC TEETH.—What has been written above regarding tonsils applies also to teeth, though perhaps not to the same degree.

(5) INTESTINAL DEFECTS.—These are believed by some Authorities to have an important influence on the incidence of rheumatism. These defects consist chiefly of diet and constipation. Apart from education of the parents and older children, little can be done in school for these conditions, but as part of the general instruction in hygiene the importance of the daily toilet could be stressed, and also the value of a generous daily consumption of cold water.

A more cheerful aspect to the picture is that with care and treatment, 25% of cases of rheumatic heart disease apparently clear up without any obvious after effect. The fundamental factor in treatment is rest, and with a view to advising on this point, all cases with heart defects are kept under observation and instructions given regarding rest and participation in school activities. All serious defects in addition are advised to be in the perpetual care of the family doctor. In some centres, Rheumatic Cardiac Clinics have been commenced, and their activities and results will be closely watched.

Other specially noteworthy features of the Report are :—

(1) TONSILS AND ADENOIDS.—The large increase (254 to 444) in the number of children who received operative treatment for this condition. This is easily the largest number ever dealt with in one year, and is specially gratifying in view of the fact that from April to June the post of Aural Surgeon was vacant.

(2) DEFECTIVE VISION.—The large increase (675 to 977) in the number of children who were specially examined for this defect and in the number (549 to 890) who received spectacles under the Authority's Scheme. This increase is due partly to the increasing keenness of parents to do their best for their children and a growing appreciation of the value of correcting any visual defect which may be present; partly to the constant help we get from the teaching staff who are always most willing to support me; and partly, one hopes, to the public appreciation of our efforts in previous years. On the other hand, it is certainly due to some extent to the increasing number who are found at medical inspection to have defects of vision. The percentage in 1921 was only 15·6: it varied between 17 per cent. and 20 per cent. from 1922 to 1928. In 1929 it rose to 24·3 per cent. and in 1930 reached 25·9 per cent., the highest ever recorded. What are the causes of this increase? The standards of examination have not varied, and the lighting in schools has not deteriorated, but rather improved. Can it be that the children of Derby are greater readers than formerly, or are they suffering from excessive homework due to scholarship aspirations? It is possible. On the other hand, is it due to the now common practice of attending cinemas? Children usually occupy the front seats in

these places of entertainment, and it is looking upward for prolonged periods which occasions the most severe form of eye-strain. With the incomplete data at present registered, one cannot, of course, be dogmatic, but the subject obviously requires further investigation.

(3) PARENTS PRESENT AT SCHOOL MEDICAL INSPECTIONS.—This number has steadily increased during the last few years, and it jumped from 2,923 in 1929 to 3,465 in 1930. This is certainly partly due to an increased proportion of younger children who attended for examination. Nevertheless, it is very gratifying and betokens the interest which is increasingly taken by parents in medical inspection.

One of the most pressing needs of the Service, the Open-air School for debilitated children, is not yet in sight, but I hope it will not be overlooked. The number of schools in the country now totals 70, and as Sir George Newman puts it “ The steady progress in public opinion in favour of the Open-air School is significant. It is an institution which has very amply justified its existence and spread its vitalising message to all grades of schools and homes. We may regard the Open-air School not merely as an institution for patching up our weaklings, but as a definite unit in our educational and health schemes providing for exceptional children.” We certainly require one in Derby.

Included in the Report is one by Mr. Arthur Stafford, the Chief School Dentist, and a report by Mr. Mountford, Organiser of Physical Training.

Under Special Enquiries will be found :—

(1) A report on the Irradiation of School Children by Sir Leonard Hill and Mr. Alan R. Laurie.

(2) An analysis of the physical condition of 100 entrants to the Nursery School (1927 to 1930) by Dr. Alexander Morrison.

I should like to place on record my appreciation of the work of the staff, and especially to the efficient service of the Chief Clerk, Mr. Wilfred Lonnon. I was very happy to receive the co-operation and help of Mr. F. C. Smithard, the Secretary to the Education Committee, and his staff, and particularly to Mr. W. H. Hanbury. I should also like to pay a tribute to the School Teachers in the

Borough who have always given me their warmest support. I am personally very grateful to Dr. Lilico for his counsel and support which have always been most freely and cordially given.

In conclusion, may I also express my appreciation of the kindness and consideration received from the Chairman and Members of the Children's Care Sub-Committee throughout the year.

SCHOOL ACCOMMODATION.

Accommodation for Medical Inspection.—In the latest types of schools a convenient room is always provided. This is usually the staff room, and is in most cases quite suitable for the inspection. In the older schools the examination of the children has to be made in a classroom, which has to be cleared for the purpose, thus congesting the already crowded classrooms remaining. In some of the Church schools, the adjoining institute is placed at the disposal of the Inspecting Medical Officer for the purpose of medical inspection.

THE DERBY SCHOOLS.

The number of Public Elementary Schools within the Borough is now 34, including Temple House School.

SCHOOL ATTENDANCE.

The accommodation in Elementary Schools is 23,591. The number of names on the books is 20,154, and the average attendance 17,852.

CO-ORDINATION.

(a) The Medical Officer of Health is also the Chief School Medical Officer. This ensures complete dovetailing of the School Medical Service with the other Health Services of the town. Especially is this valuable in the arrangements made for the inspection and treatment of the pre-school child. Arrangements have been made for the treatment of Toddlers and expectant and nursing mothers to be treated at the Dental Clinic. In addition, the Ultra-Violet Ray Clinic is also available for infants and children under the age of five years.

(b) Arrangements have also been made whereby the School Medical Staff receive daily from the Health Department lists of schools in which any case of Infectious Disease has occurred. It is thus made easier at these schools and at the minor ailments' clinics attached to them, to anticipate and prevent potential epidemics.

(c) The arrangements with the Tuberculosis Officer continue to work very satisfactorily. The chief points in the scheme are detailed under the heading of Tuberculosis on page 102.

(d) *Infant and Child Welfare*.—Children of ages from two to five years attend the Corporation Welfare Centres. 3,922 attendances of such children were made during 1930.

(e) *Care of debilitated children under school age*.—Debilitated children under school age seen at the Welfare Centres are referred for treatment either to their own doctor, the clinics of the School Medical Department, the Hospitals of the town, or to the Tuberculosis Clinic where necessary. In addition, a "Toddlers" Clinic has been instituted to deal with this type of case under the auspices of the Health Department. This clinic commenced on the 9th September, 1925, and the number of attendances made by the children during 1930 was 611.

NURSERY SCHOOL AND CLASSES.

Derby is fortunate in being provided with one Nursery School (Wright Street) and three recognised Nursery Classes (Trinity, Nuns Street and Firs Estate). These are for children chiefly from two to four years old, and are situated in districts which are associated with poor housing conditions, poverty, and a high birth rate. They are therefore very welcome and very much appreciated, so much so, that particularly at Wright Street and Trinity there is always a lengthy waiting list. These schools share the distinction of our great public schools in having intended pupils names registered for admission during the first year of life.

In these Institutions the children receive :—

(1) A medical examination on admission, and periodic examinations during their stay.

(2) The services of a School Nurse, who visits the school twice or three times weekly for minor ailments, otorrhoea, etc.

(3) The services of the School Dentist in necessitous cases.

(4) Milk in the forenoon, a very good dinner, and in selected cases cod liver oil—and all for one penny per day.

(5) In certain children, a course of ultra-violet ray therapy, which has proved extremely valuable in cases of rickets and malnutrition.

This is only from the medical side. On the social side there is education in personal cleanliness, tooth brush drill, organised games, monitorship and in the team spirit. To see a tiny child of four years old drawing the dinner ration and supplying it to eight smaller children, is a most striking exhibition of the spirit of self-reliance which is fostered in the schools. Add to that the interest engendered in the care and nurture of flowers, special pets, small hobbies, etc., the sleep in the afternoon, and last but not least, the freedom to harassed mothers who, in the big majority of cases, have one or two children of pre-nursery school age, and it is not difficult to realise why the nursery school and classes are so popular.

The number of children examined at the various schools were :—

<i>School.</i>			<i>Boys.</i>	<i>Girls.</i>	<i>Total.</i>
Wright Street	...	...	50	45	95
Trinity	...	...	59	57	116
Firs Estate	...	...	—	33	33
Nuns Street	...	...	45	39	84
			—	—	—
	TOTALS	...	154	174	328
			—	—	—

THE SCHOOL MEDICAL SERVICE IN RELATION TO PUBLIC ELEMENTARY SCHOOLS.

SCHOOL HYGIENE.

During the year all the Elementary Schools were inspected by the Medical Officers, and where necessary any defects were brought to the notice of the Secretary of the Education Committee. A special survey of all school lavatories is at present being made by the Medical Officer of Health.

With regard to the question of arrangements for drying children's clothes, there are no special rooms constructed for this purpose, but where possible arrangements are made for utilising any available accommodation in the boiler-houses. In any new schools built a drying room ought to be included.

MEDICAL INSPECTION.

The requirements of the Board with regard to Medical Inspection have been carried out in extended detail as time and conditions admitted.

- (a) Children are inspected at the age groups as required by the Board.
- (b) The Board's Schedule has been followed both with regard to Elementary and Secondary Schools.
- (c) The teaching staff notify the Medical Department of all cases coming to their notice of any defects in children, and these are dealt with at once. The schools are also regularly visited by the School Medical Officers and School Nurses.
- (d) No disturbance in the attendance of school children is caused by Medical Inspection, but owing to a classroom having to be used in some of the older schools, there is congestion in the rooms being used for teaching purposes during the time of the Medical Inspection.

Summary of Medical Inspections.

All the Public Elementary Schools were inspected and re-inspected during the year. The report on the medical inspection of Secondary Schools will be found on page 129.

Children selected for Inspection.—(Public Elementary Schools).
The classes of children examined were as follows :—

- (1) Entrants : those up to five years of age.
- (2) Intermediates : those who were eight years of age.
- (3) Leavers : those who were twelve years of age.
- (4) Children who through absence or any other cause were not examined the previous year under the above age-groups.

Number of Children Inspected.—The total number of children inspected was 7,624. Of these, 3,798 were boys, and 3,826 were girls.

The number examined at the various schools in their respective groups will be found on reference to Table I.

The total 7,624 does not include all the children examined in the schools, as a considerable number were brought forward by the Head Teachers for some special examination. The total number of these cases amounted to 348.

TABLE I.

List of Children examined in 1930, at various ages.

Boys.

Ages.

Name of School.	3	4	5	6	7	8	9	10	11	12	13	14	Other Ages.	Totals.
St James' Road ..	3	16	39	11	..	58	16	..	..	40	1	..	..	184
St. Peter's ..	10	14	14	..	..	..	..	..	..	..	..	..	..	38
St. Paul's ..	..	10	16	4	3	31	..	..	..	17	2	..	..	83
St. Thomas' ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Orehard Street ..	..	..	9	4	2	22	2	..	..	18	4	..	..	61
St. Andrew's ..	..	1	20	1	..	28	5	..	..	10	1	..	..	66
St. John's ..	9	19	18	2	..	18	2	..	..	8	..	..	..	76
Pear Tree ..	..	..	62	7	..	79	8	..	..	53	7	..	..	216
Nottingham Road ..	..	7	36	7	2	42	..	4	..	14	..	..	..	112
St. Dunstan's ..	..	13	24	4	..	10	1	..	..	19	4	..	..	75
St. Luke's ..	18	21	21	10	..	30	1	..	..	14	1	..	..	116
Firs Estate ..	..	4	45	8	..	76	10	..	..	52	8	..	..	203
Ashbourne Road ..	..	..	66	11	1	67	8	1	..	37	3	..	..	194
Wilmorton ..	..	..	11	3	1	12	2	..	..	9	..	..	..	38
St. Joseph's ..	..	8	10	3	1	22	3	..	2	16	..	..	..	65
Traffie Street ..	..	..	19	11	6	47	17	1	..	41	1	1	..	144
Brighton Road ..	..	3	45	16	6	63	6	..	..	30	4	..	..	173
Gerard Street ..	..	1	39	8	3	45	8	..	..	22	2	..	..	128
Christ Church ..	2	9	27	9	..	23	4	5	..	17	..	..	..	96
Reginald Street ..	..	5	41	12	..	53	10	..	..	37	..	..	..	158
All Saints' ..	5	12	24	1	2	4	4	..	1	13	6	..	..	72
Nightingale Road..	..	..	103	33	2	86	13	..	..	25	1	..	..	263
St. Mary's ..	..	..	8	8	8	20	8	4	1	9	2	..	..	68
Praetising ..	..	2	19	4	..	..	..	..	..	..	..	..	..	25
St. James' Church ..	..	..	45	8	..	48	5	3	3	56	5	1	..	174
Temple House ..	..	..	..	..	..	2	3	..	1	3	1	..	..	10
Central ..	..	..	..	..	..	..	..	21	42	62	72	65	38	300
Clarenee Road ..	..	..	42	21	5	44	8	4	1	7	2	..	..	134
Nuns Street ..	..	..	25	..	..	24	1	2	1	17	..	..	..	70
Kedleston Road ..	..	6	15	4	..	35	6	7	6	21	15	1	..	116
St. Anne's ..	11	15	16	4	1	23	3	..	..	12	2	..	..	87
St. Chad's ..	7	13	10	8	1	24	5	1	3	14	2	..	..	88
Normanton ..	..	2	37	7	1	43	6	..	..	11	2	..	..	109
Allenton ..	..	..	..	..	..	28	4	..	..	19	5	..	..	56
Totals ..	65	181	906	229	45	1107	169	53	61	723	153	68	38	3798

TABLE I. (continued).

List of Children examined in 1930, at various ages.

GIRLS.

Ages.

Name of School.	3	4	5	6	7	8	9	10	11	12	13	14	Other Ages.	Totals.
St. James' Road ..	4	17	38	4	1	38	2	1	..	24	7	..	..	136
St. Peter's ..	10	15	18	2	1	29	..	2	1	18	3	..	..	99
St. Thomas' ..	..	1	13	1	1	20	5	..	..	7	3	..	..	51
St. Paul's ..	..	4	13	6	2	16	2	..	..	13	1	..	..	57
Orchard Street ..	..	..	14	10	2	22	2	..	..	9	3	..	..	62
St. Andrew's ..	..	4	13	5	1	30	5	..	..	11	3	..	..	72
St. John's ..	10	16	18	5	..	20	1	..	..	12	1	..	..	83
Pear Tree ..	..	6	46	19	3	77	9	..	..	53	2	..	..	215
Nottingham Road ..	..	6	44	10	6	39	4	3	..	25	5	..	..	142
St. Dunstan's ..	..	11	15	3	..	11	1	..	..	7	4	..	..	52
St. Luke's ..	6	12	21	5	..	29	4	..	..	17	1	..	..	95
Firs Estate ..	..	..	36	10	..	51	4	..	..	43	2	..	..	146
Ashbourne Road ..	..	3	63	11	7	69	1	..	..	35	4	..	..	193
Wilmorton ..	..	..	11	4	..	20	2	..	..	9	..	..	..	46
St. Joseph's ..	..	5	20	16	2	20	2	..	2	15	..	..	..	82
Traffic Street ..	..	..	23	6	4	49	5	1	..	26	3	1	..	118
Brighton Road ..	..	5	45	20	2	56	5	..	..	31	8	..	..	172
Gerard Street ..	..	1	34	6	2	53	4	3	2	28	3	..	..	136
Christ Church ..	2	9	22	9	1	23	5	5	..	11	1	..	..	88
Reginald Street ..	..	4	34	17	2	48	..	1	..	22	2	..	..	130
All Saints' ..	8	11	13	2	..	14	5	1	1	5	4	..	..	64
Nightingale Road ..	..	2	118	37	..	91	21	..	..	37	3	..	..	309
St. Mary's ..	..	3	6	16	1	20	5	1	1	15	1	..	..	69
Practising ..	..	10	25	9	..	28	3	3	..	14	4	..	..	96
St. James' Church ..	..	..	30	8	1	34	4	1	..	25	1	1	..	105
Temple House ..	..	..	..	..	..	7	..	1	..	8	1	1	..	18
Central ..	..	..	..	..	..	..	..	17	55	76	85	67	35	335
Clarence Road ..	..	..	46	14	6	49	7	6	1	15	3	..	..	147
Nuns Street ..	..	..	28	1	..	30	1	1	1	12	2	..	..	76
Kedleston Road ..	..	3	19	5	..	28	7	..	..	22	10	..	..	94
St. Anne's ..	10	14	27	3	2	20	5	2	4	12	1	2	..	102
St. Chad's ..	5	17	11	8	1	18	8	1	3	17	8	..	..	97
Normanton ..	..	2	21	6	1	32	2	..	..	13	1	..	..	78
Allenton ..	..	..	..	..	..	34	6	..	..	16	5	..	..	61
Totals ..	55	181	885	278	49	1125	137	50	71	703	185	72	35	3826

CLOTHING & FOOTGEAR.

The percentage of children found to be inadequately clothed at the Medical Inspections during the year was 1·82, this being an increase of 0·36% on last year's figure.

Footgear was unsatisfactory in 197 cases, or 2·58%—an increase of 0·82% compared with last year.

NUTRITION.

The number of poorly-nourished children recorded at the Annual Inspections was 277, or 3·6%, compared with 3·3% in 1929.

Although the majority of these children came from impoverished families, it must be stated that a small minority were delicate children who were suffering, not from lack of food, but from constitutional weakness.

UNCLEANLINESS.

299 children, or 3·9% of the children examined were found to be verminous at the Annual Inspections by the School Medical Officers, most of them being of a slight character, exclusion from school being unnecessary in any of these cases. Compared with the previous year, this figure shows an increase of 0·7%.

Further particulars under this heading are given in that part of the report dealing with the work of the School Nurses.

TONSILS AND ADENOIDS.

The presence of enlarged tonsils and adenoids was recorded in 36·3% of the children examined, which is a decrease of 3·2% on the previous year's figure. 23% of these were in urgent need of removal, and were referred to the School Aural Clinic or local institutions for arrangements to be made for the necessary operations to be carried out.

Summary.

Enlarged Tonsils and Adenoids ...	...	3·35%
Enlarged Tonsils ...	...	31·96%
Adenoids ...	...	1·00%

Pronounced mouth breathing was recorded in 169 instances.

TUBERCULOSIS.

Dr. W. H. Wray, Tuberculosis Officer, reports :—

Pulmonary Tuberculosis.—During the year, 38 children of school age (20 boys and 18 girls) were notified as suffering from Tuberculosis of the Lungs. Of the 38 new cases, 17 were notified by the Tuberculosis Officer, having been referred to him by the School Medical Officer.

The examination of the sputa of school children was again very carefully carried out wherever obtainable.

The number of school children suffering from Pulmonary Tuberculosis admitted to the Derby Borough Sanatorium up to the end of December, 1930, was 42 (23 boys and 19 girls). This figure shows an increase of 18 on the previous year's admissions.

Forty-four school children (pulmonary cases) were discharged from this Institution during the year. Their conditions on discharge were reported as follows :—

				<i>Boys.</i>		<i>Girls.</i>
Much improved	...	...	22	...	8	
Improved	...	...	5	...	5	
In Statu Quo	...	...	2	...	2	

No children died in the institution during the year.

The average stay of these child patients in the Sanatorium was 159 days, as compared with 196 days in 1929, 297 days in 1928, 291 in 1927, and 211 in 1926. The increased number of admissions is necessarily reflected in the drop in the average days of stay.

One hundred and twenty-eight children were excluded from school for varying periods owing to definite or suspected tuberculosis, this number including cases notified in former years. A certain proportion of these children were excluded from school for the morning sessions only, and a certain proportion for the afternoon sessions only. Educational interests had inevitably to be sacrificed in the interests of the child patients and of their class-mates.

During the year 85 new cases were referred to the Tuberculosis Officer as compared with 45 in the previous year.

In all, over 400 children of school age were examined at the Tuberculosis Clinic. This number includes many children seen in previous years, it being clearly desirable to keep actual and suspected cases under observation for a considerable period.

The close co-operation between the School Medical Service and the Tuberculosis Service of the Borough Council has been continued and intensified during the year. Some points may again be usefully quoted :—

- (1) The School Medical Officer refers to the Tuberculosis Officer suspected cases for examination.
- (2) Where the Tuberculosis Officer decides that a child is not suffering from active tuberculosis he refers the case to the School Medical Officer for his further medical supervision.
- (3) The School Medical Officer is informed of cases who are notified as suffering from tuberculosis and of children whose condition is such as to enable them to return to school.
- (4) The Tuberculosis Officer keeps the School Medical Officer informed of results of examinations made of the sputa of all school children.

Non-Pulmonary Tuberculosis :—The total number of children suffering from forms of Tuberculosis other than Pulmonary notified during the year was 16 (9 boys and 7 girls) and of these, 2 were notified by the Tuberculosis Officer, having been referred to him by the School Medical Officer. The parts affected were as follows :—

Abdominal Tuberculosis	...	...	...	5
Tuberculous Meninges	...	...	...	4
„ Cervical Glands	...	...	...	4
„ Hip	...	...	...	2
„ Elbow	...	...	...	1
				—
				16
				—

In the previous year, 12 cases of non-pulmonary tubereulosis in school children were notified.

Three school children (two boys and one girl) suffering from non-pulmonary tuberculosis were admitted to the Borough Sanatorium in 1930. In two cases the hip joint was affected, and the other was a case of abdominal tuberculosis. Three cases were discharged during the year :—

Hip joint (boy)	...	...	" In Statu Quo."
„ (girl)	...	...	" Improved."
Cervical Glands (girl)	...	...	" Much improved."

Other cases were given treatment at the Tuberculosis Clinic, observation over a period of years being carried out as in the case of pulmonary patients.

The co-operation between the Borough Tuberculosis Officer and the School Medical Officer in the case of all school children suffering from bone tuberculosis has been maintained. Reports on the progress of all cases receiving institutional treatment are forwarded to the School Medical Officer.

Three cases of bone tuberculosis in school children were treated in the Brethby Orthopædic Hospital during the year.

SKIN DISEASES.

These diseases are dealt with in detail under the heading of the Skin Clinic, most skin diseases, being obvious, are usually discovered by the parent and treated early. Others were found at the periodic visits of the nurses. At the Routine Medical Inspection the following diseases were also diagnosed :—

Impetigo	...	...	30	Psoriasis	...	...	6
Seborrhœa	...	...	23	Erythema	...	...	5
Ichthyosis	...	...	22	Warts	...	...	5
Dermatitis	...	...	9	Ringworm Scalp	...	...	4
Strophulus	...	...	7	Ringworm, Body	...	...	4
Urticaria	...	...	7	Moles	...	...	4
Scabies	...	...	6	Other Diseases	...	...	20

EXTERNAL EYE DISEASE.

The following defects were found in the course of medical inspection :—

Blepharitis	...	...	88	Ptosis	...	...	...	4
Conjunctivitis	...	...	10	Coloboma	...	...	...	3
Cyst	...	...	4	Other Defects	...	...	...	9

All urgent cases were sent to the School Oculist immediately.

VISION.

The number of children whose vision was tested was 4,958 out of the total inspected, 7,624. 1,287 children (or 25·9%) had defects of vision in varying degrees, compared with 24·3% in 1929. Of these, 306 were wearing glasses. All children with defects over 6/9, 6/9, and also all children reading only 6/9, 6/9, who exhibited any signs of eye strain, were referred to the School Clinic for refraction.

4·9% of the total number examined were found to be wearing glasses.

EAR DISEASE & HEARING.

Discharge from one or both ears was recorded in 81 instances.

The total number of children who were found to have sub-normal hearing was 57.

Almost all these cases could be traced to two distinct sources. (1) Those following an infective disease, such as measles ; and (2) Those who had a history of enlarged tonsils and adenoids. Children with enlarged tonsils and adenoids who developed measles or scarlet fever were much more liable to contract running ears than those who were normal.

DENTAL DEFECT.

4,594 children were found at the Routine Medical Inspection to have carious teeth. Only the urgent cases were referred direct to the School Dental Surgeon for treatment, as in the majority of these cases the children are included in the routine age groups, inspected by the School Dental Surgeons during the year.

CRIPPLING DEFECTS.

The following deformities were noted at the Routine Medical Inspections :—

Rickets	254	Congenital Deformities,	
Spinal Curvature ...	50	Talipes, etc. ...	12
Slight Chest abnormali-		Crippling due to in-	
ties	39	juries	9
Infantile Paralysis ...	17	Torticollis	2
		Cleft Palate	2

OTHER CONDITIONS.

(a) OTHER LUNG DISEASES.—The following are the defects found at the medical inspections :—

Bronchitis	186
Other Defects	140

(b) HEART DISEASES.—Abnormal conditions of the heart were found in 347 instances.

Enquiries showed that many of these children, while not suffering from rheumatism at the time of the examination, had a rheumatic history. Some had definitely suffered from rheumatic fever, but other forms—chorea, twitching, arthritis, growing pains, and chronic tonsillitis—had been experienced by the others, although not recognised by the parents as rheumatic in nature. On the other hand, a certain number of these children were apparently suffering from functional irregularities, and were associated with anæmic conditions. No case was diagnosed as suffering from organic disease until several periodical examinations had been made.

(c) **ENLARGED THYROID.**—Enlargement of the thyroid gland was found in 62 instances, a decrease of 28 compared with last year's figure. The majority of these were only of a slight character.

Instructions were given in every case to obtain means to secure a mitigation of this condition.

		Entrants.	Intermediates.	Leavers.
Boys	...	—	6	11
Girls	...	1	12	32

VACCINATION.

1,126 (14·8%) of the 7,624 children medically inspected were recorded as having been vaccinated.

INFECTIOUS DISEASES.

The system of notification by the Head Teachers and School Attendance Officers and methods of procedure were continued as in previous years. The total number of notifications received from the School Authorities was 1,376.

School Closure.—It was not found necessary to close any of the schools in Derby during the year.

Diphtheria Swabbing.—During 1930, 162 swabbings were taken from the throats of school children, and of these 25 were found to contain diphtheria bacilli, a percentage of 15·43.

TABLE II.
CASES NOTIFIED BY SCHOOL TEACHERS AND
SCHOOL ATTENDANCE OFFICERS.

School.	Scarlet Fever.	Measles.	Chicken Pox.	Diphtheria.	Mumps.	Whooping Cough.	Throats.	Various.
Ashbourne Road ..	..	33	17	..	3	1	24	4
Brighton Road ..	1	82	3	..	2	1	..	..
Clarence Road ..	2	19	39	..	..	5	3	9
Firs Estate ..	3	24	..	..	..	2	..	..
Gerard Street ..	..	34	8	..	..	..	..	..
Nottingham Road ..	1	104	13	..	1	1	3	2
Nuns Street ..	1	27	1	..	..	1	..	..
Orchard Street ..	..	..	..	..	..	..	..	..
Wilmorton ..	..	23	5	..	2	..	..	3
Pear Tree ..	4	35	22	..	1	2	5	10
St. James' Road ..	5	6	14	..	..	..	1	2
Traffic Street ..	..	3	..	..	..	..	..	1
All Saints' ..	..	26	4	..	..	..	..	..
Reginald Street ..	1	3	16	..	..	1	1	2
Christ Church ..	..	3	1	..	..	..	..	..
Practising ..	..	..	..	..	..	..	..	..
St. Andrew's ..	..	..	..	..	..	1	..	..
St. Anne's ..	..	41	3	..	1	..	..	2
St. Chad's ..	..	1	..	..	..	..	..	..
St. Dunstan's ..	..	..	..	..	..	..	..	2
St. James' Church ..	..	1	..	1	..	..	..	..
St. John's ..	..	47	17	..	1	1	..	..
St. Joseph's ..	..	22	2	..	..	..	..	..
St. Luke's ..	..	14	31	..	..	..	..	..
St. Mary's ..	..	..	..	..	..	..	..	..
St. Paul's ..	..	..	..	..	1	..	..	..
St. Peter's ..	..	27	9	..	..	1	..	27
St. Thomas' ..	..	7	10	..	..	..	..	1
Temple House ..	..	..	..	..	..	..	..	..
Kedleston Road ..	..	7	..	..	1	..	3	2
Nightingale Road ..	6	147	33	1	4	7	9	..
Traffic Street (Trinity)								
Infants ..	..	24	3	..	..	2	..	11
Wright Street Nursery ..	..	31	1	..	..	..	..	..
Normanton ..	..	5	2	..	..	..	..	2
Allenton ..	1	87	33	1	4	..	2	..
Central ..	..	..	..	..	..	..	..	..
Totals ..	25	883	287	3	21	26	51	80

TABLE II. (*continued*).

CASES VERIFIED.

School.	Scarlet Fever.	Measles.	Chicken Pox.	Diphtheria.	Mumps.	Whooping Cough.	Throats.	Various.
Ashbourne Road ..	3	21	15	..	..	..	5	16
Brighton Road ..	1	43	4	..	..	..	..	6
Clarence Road ..	2	27	36	..	..	4	3	3
Firs Estate ..	3	21	1	..	..	1	..	2
Gerard Street ..	..	23	7	..	..	..	..	11
Nottingham Road ..	1	80	9	..	..	..	2	22
Nuns Street ..	1	18	..	..	..	..	1	3
Orchard Street ..	..	..	..	..	..	..	..	..
Wilmorton ..	..	21	3	..	..	..	..	6
Pear Tree ..	3	38	20	..	..	1	3	5
St. James' Road ..	4	6	9	1	..	..	..	1
Traffic Street ..	..	4	..	..	..	..	..	..
All Saints' ..	..	16	4	..	..	..	..	4
Reginald Street ..	1	2	17	1	..	1	..	2
Christ Church ..	1	2	1	..	..	..	..	..
Practising ..	..	..	..	..	..	..	..	..
St. Andrew's ..	..	..	..	..	..	1	..	..
St. Anne's ..	..	25	2	..	..	..	..	13
St. Chad's ..	..	1	..	..	..	..	..	..
St. Dunstan's ..	..	..	2	..	..	..	..	..
St. James' Church ..	..	1	..	1	..	..	..	..
St. John's ..	..	43	17	..	..	..	1	2
St. Joseph's ..	..	19	2	..	..	..	..	3
St. Luke's ..	1	8	28	..	..	..	..	3
St. Mary's ..	..	..	..	..	..	..	..	..
St. Paul's ..	..	..	..	..	1	..	..	..
St. Peter's ..	..	26	6	..	..	1	..	14
St. Thomas' ..	..	7	10	..	..	..	..	..
Temple House ..	..	..	..	..	..	..	..	..
Kedleston Road ..	..	5	..	..	..	..	4	4
Nightingale Road ..	6	127	31	1	1	6	6	10
Traffic Street (Trinity) Infants ..	..	28	2	..	..	1	..	5
Wright Street Nursery ..	..	27	1	..	..	..	..	2
Normanton ..	..	1	2	..	..	..	..	2
Allenton ..	..	67	26	1	4	..	..	12
Central ..	..	..	..	..	..	..	..	..
Totals ..	27	707	255	5	6	16	25	151

FOLLOWING UP.

Instructions to Parents.—In all cases where a child was found to be suffering from a defect requiring treatment, and was not already under treatment, notice was sent to the parent requesting the attendance of the child at the School Clinic, or was advised to obtain treatment privately. All these cases are reviewed periodically by the Medical Officers.

Tonsils and Adenoids.—The School Nurses visit in connection with this condition :—

(1) All cases who have been listed to see the Aural Specialist and who have not kept the appointment.

(2) All cases where parents say they prefer treatment privately.

(3) Cases in which the consent of the parent for the operation has not been received.

(4) Cases receiving operative treatment under the Authority's Scheme are visited in their homes within two or three days after their discharge from hospital.

Vision.—All cases are referred either to the School Clinic or to the Derbyshire Royal Infirmary. Serious defects not remedied are visited by the School Nurses, and if this fails, the assistance of the National Society for the Prevention of Cruelty to Children is requested. In addition, the School Teachers are notified of all children receiving prescriptions for spectacles to ensure that they are worn by the children in school.

General.—All cases who have been listed for any ailment and invited to see the School Medical Officer at the Central Clinic and who have not kept the appointment.

MEDICAL TREATMENT.

INSPECTION CLINIC, MILL HILL LANE.—This clinic, held on two afternoons per week (Tuesdays and Thursdays), is reserved for cases requiring special examination, or cases referred from the Education Committee for special reports. In a number of these

cases no treatment is carried out, but where medical advice is necessary, advice to that effect is given to the parent, and the children are seen at frequent intervals in order that they may be kept under observation to see that adequate measures are being taken to carry out the necessary treatment.

The following were the types of cases which attended the Inspection Clinic :—

Tonsils and Adenoids	...	203	Dental Defects	...	28
Bronchitis	...	190	Non-Pulmonary		
Malnutrition	...	145	Tuberculosis	...	28
Anæmia	...	119	Vision	...	28
Rheumatism	...	117	Definite Pulmonary		
Debility	...	112	Tuberculosis	...	27
Suspected Pulmonary			Other Nose and Throat		
Tuberculosis	...	93	Defects	...	21
Heart Defects	...	92	Mentally Defective	...	17
Neurosis	...	67	Epilepsy	...	14
Deformities	...	64	Constipation	...	9
Anorexia	...	49	Gastric Catarrh	...	8
Skin Diseases	...	48	Other Eye Diseases	...	7
Ear Diseases	...	46	Colic	...	7
Enuresis	...	40	Tonsillitis	...	7
Chorea	...	38	Minor Injuries	...	6
Enlarged Glands	...	31	Other Diseases	...	73
Other Lung Diseases	...	31			
Worms	...	30			
Total number of cases attended			...	1795	
Total number of attendances			...	1830	
Total number of clinics held			...	112	
Average number per clinic			...	16	

MINOR AILMENTS CLINICS.—These clinics are situated at convenient distances from the groups of schools so that children requiring treatment have not very far to go. The conditions treated are purely those of minor ailments, and the greater proportion of these are cases of slight skin affections, such as Impetigo, etc., and minor injuries. Eye conditions, however, *e.g.*, Conjunctivitis and Blepharitis, and cases of Otorrhœa, are also treated at these clinics.

It is true that many of these ailments are necessarily slight in character. Nevertheless, it has been found that, if neglected, these simple injuries have serious complications, and early treatment undoubtedly minimises the number of absences from school. Parents attend these clinics in large numbers, and in many cases bring their children for treatment for illnesses which do not fall within the scope of these clinics. No child, however, attends without being seen and some advice given to the parent. Where the case is one in which something can be done for the child through the agency of the special departments of the Service, the child is brought forward for special examination. Where treatment is out of the question, the parents are advised to go to a private doctor or to the general hospital. There is no doubt whatever that parents are finding these clinics increasingly valuable.

MINOR AILMENTS CLINIC, MILL HILL LANE.—This clinic is held each morning (Saturday included).

Total number of cases attended	...	2,952
Total number of attendances	... ..	19,362
Total number of clinics held	... ..	263
Average number per clinic	... ..	74

MINOR AILMENTS CLINIC, 56, ST. HELEN'S STREET.—A branch clinic was established at these premises in December, 1929, on the removal of the Central Clinic to Mill Hill Lane, and is held on two afternoons per week (Monday and Thursday).

Total number of cases attended	...	1,438
Total number of attendances	... ..	7,113
Total number of clinics held	... ..	85
Average number per clinic	... ..	84

MINOR AILMENTS CLINIC, BRIGHTON ROAD.—Brighton Road Clinic was established in March, 1915, and is held on two mornings per week (Monday and Thursday).

Total number of cases attended	...	2,026
Total number of attendances	... ..	5,873
Total number of clinics held	... ..	85
Average number per clinic	... ..	69

MINOR AILMENTS CLINIC, PEAR TREE SCHOOL.—This Clinic is held on two mornings per week (Monday and Thursday).

Total number of cases attended	...	2,389
Total number of attendances	... ..	7,317
Total number of clinics held	... ..	85
Average number per clinic	... ..	86

MINOR AILMENTS CLINIC, TRAFFIC STREET SCHOOL.—This clinic, established in August, 1920, is held on two afternoons per week (Tuesday and Friday) for treatment of junior children only.

Total number of cases attended	...	683
Total number of attendances	... ..	2,433
Total number of clinics held	... ..	85
Average number per clinic	... ..	29

MINOR AILMENTS CLINIC, FIRS ESTATE SCHOOL.—This clinic was established in February, 1928, and is held on two mornings per week (Tuesday and Friday) for treatment of junior children only.

Total number of cases attended	...	1,306
Total number of attendances	... ..	5,833
Total number of clinics held	... ..	83
Average number per clinic	... ..	70

MINOR AILMENTS CLINIC, ALLENTON SCHOOL.—This clinic was established in November, 1929, and is held on two afternoons per week (Monday and Thursday).

Total number of cases attended	...	1,146
Total number of attendances	... ..	3,957
Total number of clinics held	... ..	83
Average number per clinic	... ..	48

MINOR AILMENTS CLINIC, NOTTINGHAM ROAD SCHOOL.—This clinic was established in January, 1930, and is held on two afternoons per week (Monday and Thursday).

Total number of cases attended	...	1,545
Total number of attendances	... ..	6,489
Total number of clinics held	... ..	85
Average number per clinic	... ..	76

DENTAL CLINIC, MILL HILL LANE.—The Dental Clinic is held every day of the week (morning and afternoon).

Total number of cases attended	...	6,274
Total number of attendances	... ..	7,249
Total number of clinics held	... ..	633

Mr. Arthur Stafford, School Dental Surgeon, reports as follows :—

“ The statistical report of the Dental Department for 1930 shows a general increase on the figures for 1929. Any such increase, however, on the figures of the previous three years, during which time two Dental Officers had been working at full pressure, is not to be regarded too favourably. Two officers can only carry out a limited number of inspections and treatments to obtain reasonable results, and any overstepping of that limit is unfavourable. For instance, if it were possible to treat in the coming year double the number of children treated in 1930, broadly speaking, it would be at the expense of half the amount of treatment per child. Yet it is an established fact that the most successful results are only reached by treatment that is complete and systematic. For some time now, this limit has been over-reached, and much of the necessary treatment that has been passed over has been, unfortunately, of a conservative nature.

To deal with the figures of this report, the increase in the number of fillings is a definite improvement, but the proportion is still below what it should be, despite every effort to make it a higher one.

The number of extractions is greater. That more temporary teeth were removed than in any previous year is accounted for in that a greater number of children were dealt with, and as these teeth were decayed beyond any measures of conservation, and were also of the temporary set, their loss is of no outstanding importance, but that more permanent teeth were extracted than hitherto is deplorable. Actually, more permanent teeth were extracted than were filled during the year, and this cannot be said to be gaining ground. It is obvious that these teeth have been ultimately dealt with by extraction, instead of at the onset of

disease by conservation. The saving grace of the treatment in these cases is that there has been relief from pain, and that general health may have benefited to some degree, but mouths are being depleted of teeth that should remain, at least, well into adult life, and when it is remembered that prevention in this instance is no mere theory, but a very practical fact, it is most regrettable that these teeth could not have been caught earlier. These are the teeth that have been left untreated where the limit of numbers has been passed.

More children of the routine age groups were inspected at schools, and here again, it is a case of making the field of work larger, and thereby increasing the problem. At the same time, there are 20,000 children in the Borough available for treatment, and, as the Dental Clinic becomes more popular, clamouring for it. There is but one solution—a more adequate staff to deal with the work.

In spite of these difficulties, there are some pleasing features in the past year's record. Of the following two tables, (a) shows the condition of the teeth found on inspection of children at schools for the past six years, and (b) refers to invitations for treatment as a result of these inspections for the past four years, during which time this system has been in practice.

		<i>Percentage of Children.</i>					
		1925	1926	1927	1928	1929	1930
(a)	Sound	8.0	7.0	7.5	8.4	9.5	12.7
	Defective but not requiring treat- ment	22.0	17.0	15.5	22.8	22.6	25.4
	Requiring treat- ment	70.0	76.0	77.0	68.8	67.9	61.9
(b)	Consents			64.3	68.3	69.1	76.5
	Refusals			22.3	21.8	20.4	17.5
	No reply			13.4	9.9	10.5	6.0

These tables are significant of the true value of the work that is being done. Table (a) denotes that although all requirements

cannot be met, that which is being done in part is leaving its mark, and that there is gradual, if slow, progress, while table (b) indicates that parents are becoming more and more educated to the benefits of dental treatment and the proper care of their children's teeth, and are appreciating the advantages afforded them by the School Dental Clinic.

During the year, change of staff has been some handicap to the general progress of the work, but an enthusiasm on the part of everyone concerned both with treatment and clinical duties has enabled a fair standard of work to be maintained. In addition, valuable assistance has been given by the Chief Clerk in interviewing parents on matters extraneous to treatment; formerly this took up an amount of a dental officer's time, which is now more usefully spent on carrying out treatment.

Finally, mention should be made on the vast improvement of the premises, which have now been occupied for a full year. Derby at last possesses a School Dental Clinic of which it need not be ashamed, with two well-equipped surgeries, waiting room and recovery room. The benefit is two-fold; it makes the work of the staff pleasanter, and secondly, it encourages the attendance for treatment of those children whose parents had an objection to the dingy premises at St. Helen's Street. The rooms here are appropriately arranged for enabling smooth and time-saving methods of working."

OPHTHALMIC CLINIC, MILL HILL LANE.—This clinic is held two sessions per week (Monday afternoon and Wednesday morning). Children are referred to this clinic for refraction, and arrangements are made for the provision of glasses, if necessary, at contract rates.

Total number of Cases attended	...	...	1027
Total number of Attendances	...	...	1940
Total number of Clinics held	...	...	113
Average number per clinic	...	...	17
Spectacles provided at contract rates	...	...	925

AURAL CLINIC, MILL HILL LANE.—This clinic was established in January, 1920, for the treatment of children with Ear and Nose and Throat defects. The School Aurist attends on Friday mornings for examinations and treatment. Where further continued treatment is required, this is given by the Nurses at the Central and Branch Clinics, as directed by the Specialist. By arrangement, cases of enlarged tonsils and adenoids are referred from this clinic to the Derbyshire Royal Infirmary for operative treatment, if found necessary. All these cases are visited in their homes by a school Nurse within two or three days after their discharge from hospital, and are afterwards kept under observation.

Total number of cases attended	...	...	654
Total number of attendances	...	...	1132
Number of clinics held by Specialist	...		30
Average number per clinic seen by Specialist			26

ULTRA-VIOLET RAY CLINIC, MILL HILL LANE —This clinic was opened in February, 1927.

The following were the types of cases treated during the year :—

Septic Sores	...	...	65	Erythema Pernio	...	...	2
Alopecia Areata	...	...	16	Lupus Vulgaris	...	...	2
Chronic Ulcers	...	...	15	Keloid	...	...	1
Impetigo Contagiosa	...	...	15	Furunculosis	...	...	1
Xeroderma	...	...	8	Seborrhœic Warts	...	...	1
Seborrhœa	...	...	8	Erythema Measliforme	...	...	1
Dermatitis	...	...	5	Sinus	...	...	1
Ichthyosis	...	...	4	Nævus (Lupoid)	...	...	1
Seborrhœic Dermatitis	...	...	4	Morphœa	...	...	1
Psoriasis	...	...	3	Other Diseases	...	...	3
Bronchitis	...	...	107	Tuberculous Glands	...	...	9
Malnutrition	...	...	89	Mental Condition	...	...	8
Anæmia	...	...	88	Asthma	...	...	7
Neurosis	...	...	49	Post Tonsillectomy Debility	...	...	6
Rheumatism...	...	...	46	Post Influenza Debility	...	...	5
Anorexia	...	...	27	Post Diphtheria Debility	...	...	5

Rickets	...	...	...	25	Post Pneumonic Debility	4
General Debility	...	...	...	24	Tuberculosis Lungs	4
Enlarged Glands	...	...	...	20	Otitis Media	3
? Tuberculosis Lungs	...	...	...	18	Post Scarlet Fever Debility	3
Post Measles Debility	...	...	...	15	Minor Injuries	3
Chorea	...	...	...	14	Intestinal Catarrh...	2
Post Tonsillitis Debility	...	...	...	11	Leucorrhœa	2
Emuresis	...	...	...	9	Other Diseases	10
Post Whooping Cough Debility	9					

Total number of children attended	...	...	975
Total number of attendances	...	...	18,162
Total number of clinics held	...	...	423
Average number per clinic	...	...	43
Total number of exposures	...	...	18,303

ULTRA-VIOLET RAY CLINIC, ST. HELEN'S STREET.—

The following were the types of cases treated. In addition, 93 nursery school children were given a course of treatment as a general tonic. The children who received this treatment were mostly those whose vitality appeared to be lower than normal, but who did not come under the category of any disease.

Septic Sores	...	...	13	Impetigo Contagiosa	...	2
Dermatitis	...	...	4	Psoriasis	...	2
Furunculosis	...	...	3	Chronic Ulcer	...	2
Alopecia Areata	...	...	3	Erythema Pernio	...	1
Bronchitis	...	...	33	Neurosis	...	6
Malnutrition	...	...	20	General Debility	...	4
Rickets	...	...	10	Post Pneumonic Debility	3	
Anæmia	...	...	9	Anorexia	...	3
Rheumatism...	...	...	8	Chorea	...	3
? Tuberculosis Lungs	...	...	7	Gastric Catarrh	...	2
Post Measles Debility	...	...	7	Tuberculosis Lungs	...	2
Post Tonsillitis Debility	...	...	6	Emuresis	...	2
Other Diseases	...	...	10			

Total number of children attended	...	...	304
Total number of attendances	...	...	5,733
Total number of clinics held	...	...	313
Average number per clinic	...	...	18
Total number of exposures	...	...	5,734

SKIN CLINIC, MILL HILL LANE.—

Ringworm Scalp	...	...	77	Scabies	...	...	...	7
Dermatitis	...	...	51	Xeroderma	...	...	...	7
Alopecia Areata	...	...	41	Nævus	...	...	...	5
Seborrhœic Dermatitis	...	...	40	Prurigo	...	...	...	2
Warts	...	...	31	Lupus Vulgaris	...	...	...	2
Impetigo Contagiosa	...	...	29	Morphæa	...	...	...	1
Seborrhœa Capitis	...	...	28	Ecthyma	...	...	...	1
Ringworm Body	...	...	26	Urticaria	...	...	...	1
Seborrhœa Corporis	...	...	23	Pityriasis Rosea	...	...	...	1
Psoriasis	...	...	16	Pyoderma	...	...	...	1
Ichthyosis	...	...	10	Leucoderma	...	...	...	1
Septic Sores...	...	...	8	Herpes Zoster	...	...	...	1
Erythema	...	...	8	Other Diseases	...	...	...	6

Total number of children attended	...	...	424
Total number of attendances	...	...	1,125
Total number of clinics held	...	...	36
Average number per clinic	...	...	31

OPEN-AIR EDUCATION.

Open-Air Classes.

In a large number of schools, when conditions are favourable classes are held in the open air in summer, but the most systematic open-air teaching is done at the Borough Sanatorium, where a small class for tuberculous children receive daily instruction from a qualified teacher.

SCHOOL JOURNEYS.

Many schools make a speciality of day and half-day excursions to the country for nature study.

300 boys and 266 girls were taken to a holiday camp at Skegness for one week in August. A marked improvement in the physical condition of both boys and girls was noticed, and their outlook on life was considerably widened by their new experience. All these children were medically examined before proceeding to camp.

PHYSICAL TRAINING.

Mr. Mountford, Organiser of Physical Training, reports :—

“ A good system of Physical Education was provided by the Board of Education in the 1919 syllabus. Since the introduction of this syllabus, a large number of teachers have gained a sound knowledge of the subject, but the full value which could be obtained is limited by inadequate facilities.

In the majority of Senior Schools the only available space for the physical training lesson is the open playground. Rainy weather too often prevents a lesson being taken ; a wet, muddy playground makes the lesson difficult and dangerous, and cold, windy days limit it to general activities. It is only on fine, warm days that the most can be made from the free standing exercises. For alternative accommodation the teacher has the choice of his own crowded classroom or a small shed, both of which are unsuited to a physical training lesson, except in a most elementary form. The school hall is the natural place to look for alternative accommodation. Unfortunately, most schools provided with halls find it necessary to use them as classrooms owing to the gradual increase of school population since the schools were built, and the tendency to reduce the size of classes, which makes extra classroom accommodation a necessity. Even though this is temporary, a free school hall will only allow a physical training lesson of a quiet type which will not interfere with the work in the surrounding classrooms.

A suitable room in which to carry out the physical education is the most urgent need of the Senior Elementary School. A gymnasium with dressing rooms is considered an essential part of the Secondary

School, and the provision of similar accommodation is equally essential for the Senior Elementary School. It is not suggested that a fully-equipped gymnasium is required, but that a physical training room (60' by 30'), if possible, separated from the main building, would meet the need. The provision of such a room would be a great step forward in the progress of physical education. It would also make possible much of the social side of school life which at present is neglected, and would be a boon to many outside school activities such as are carried on in the Evening Schools and Play Centres.

Although no mention has been made of the re-organisation of Elementary Schools, it is certain that this will bring changes which will vitally affect the physical education. It is probable that the present twenty minutes lesson will be replaced by lessons of thirty to forty minutes duration. A more complete system of physical training will be made possible in which some form of portable apparatus can be used. Such changes can only be made possible by the provision of a physical training room.

SWIMMING.—In Derby, swimming is an important part of the general physical education of school children. The success of the swimming is largely judged by the number of children who are taught to swim during each season rather than the individual successes which may be gained by the more expert swimmers.

The average number of First Learner Certificates during the past nine years is approximately 950. Once during this period has the number been less than 900, and once the number exceeded 1,000, this being in 1925, when 1,126 certificates were awarded. This record has now been passed, and 1,145 boys and girls have gained the First Learner Certificate during the past season.

The results are as follows :—

	1925	1929	1930
1st Learner's Certificates ...	1,126	967	1,145
2nd ,, ,, ...	872	673	742
Distance ,, ...	—	858	986

During the past season, two temporary swimming instructors were appointed. Both instructors did valuable work, and were, without doubt, a great assistance to the class teachers. The teach-

ing of swimming, however, must always have the support of the class teachers, who should continue to hold themselves primarily responsible for the subject.

A new swimming bath is being built to take the place of the old Full Street Baths, which will be closed when the new Baths are completed. Although the number of baths will remain the same, it is hoped that the increased dressing accommodation will make possible a better organisation of school swimming. Another swimming bath at the Normanton end of the town is still needed.

LIFE SAVING.—The Life Saving results are as follows :—

	1925	1929	1930
Elementary ...	398	381	310
Proficiency ...	346	279	232
Medallions ...	172	141	114

The Chambers' Life Saving Shields were awarded to St. James' Church Boys' School and Pear Tree Senior Girls' School.

The Committee for the Encouragement of Swimming again carried out the tests for the free season tickets which are granted annually by the Parks and Baths Committee. The honorary secretary states in his report that "at the tests held in 1930, 128 girls and 91 boys were examined for swimming scholarships.

A general comparison between the standard displayed at these tests and that displayed in 1929 by scholars who would attain school-leaving age during the ensuing twelve months disclosed the fact that the girls showed a decided improvement, but that there was a falling off on the part of the boys.

A large proportion of the candidates exhibited faults which would probably have been eliminated if the classes taken to the baths had been smaller in numbers and the teachers had been able to devote that individual attention which the subject deserves."

It must be remembered that even with large classes only a small percentage of senior boys and girls can take part in swimming owing to the limited bath accommodation. At present, every available half-hour allotted to school swimming is used.

ORGANISED GAMES AND PLAYING FIELDS --All senior classes are allotted one organised games period per week, and in a large number of schools organised games form a real part of the physical education of the boys and girls. Two schools—Allenton and Nottingham Road—are fortunate in possessing a small playing field attached to the school, and seven schools have found it possible to rent convenient private pitches for their organised games in school time. The remaining schools make use of the public Recreation Grounds. The increasing wear and tear put upon these grounds, especially in the football season, makes them totally unfit for summer-time games, and these schools feel the need for a private playing field very keenly.

The National Playing Fields Association have recently laid several cricket pitches on the London Road Playing Fields. It is hoped that these will be available to schools during the coming season, and that the Education Committee will make a grant for the renting of these pitches.

The cost of renting private pitches during the 1927-28 season amounted to £79, whilst this has increased during the 1928-29 period to £95. If cricket pitches are to be rented during the coming season, these rents will be considerably in excess of £100 (exclusive of Central Schools).

The purchase of one or two playing fields which could be used by a number of schools as an alternative to the above outlay on individual pitches is a question which must claim the attention of the Education Committee in the near future.

PLAY CENTRES.—Centres at Traffic Street and Orchard Street were again opened, and the activities were continued, as in previous years. The Superintendents at both Centres reported an increased attendance throughout the session.

It is hoped that the covered-in playground at Traffic Street will be supplied with adequate lighting to enable organised games to be played. An experiment in this direction has already proved successful. This would be an added attraction to the Centre, and would provide a popular activity, which is at present lacking at both centres.

The play activities at both Centres are many and varied, but there is still room for play of a more serious nature which calls for continuity of purpose. A good example of this is often found in the boys' woodwork room. Here boys are encouraged to choose a model which will take some weeks to complete rather than one which can be finished in an evening.

TEACHERS' CLASSES.—One physical training class for women teachers was held at Reginald Street. Forty teachers enrolled and an average attendance of thirty was made. The class was of a practical nature, and all teachers took an active part in the lessons. The work was limited to Physical Training for Senior Schools. Each lesson was of forty minutes duration, and apparatus work (benches, mats and vaulting horse) suitable to children of eleven years and upwards was included.

FOLK DANCING.—The fifth annual competition for the "Petty" Shield was held at Parkfields Cedars.

The awards were :—

- (1) Pear Tree Senior Girls' School (Shield).
- (2) Clarence Road School.
- (3) Brighton Road School.
- (4) Junior Art School (best mixed team).

This competition is doing much to raise the standard of country dancing in the Elementary Schools. Many schools have to carry out the dancing in the school playground with the aid of a gramophone, or, after school hours, by moving the desks in hall or classroom. Under these conditions it is remarkable that such a high standard of dancing is obtained, and the teachers responsible for it are to be congratulated.

SCHOOL CAMPING.—The Education Committee organised its second annual camp at Skegness. The camp extended over the full period of the summer holidays, two weeks being allotted to the boys and two to the girls. The charge per head, per week, was fixed at £1, this including the train fare, 5/6. The Committee continued to make grants to schools to cover the cost of sending

at least 280 boys and girls, whilst the children increased their own contributions. This made it possible for 500 children to spend one week each in camp compared with 400 in the previous year.

The camp was a great success, and no serious accident or illness was reported. All children were medically examined before going to camp, and a school nurse was in attendance at camp each week. This innovation proved a blessing in many ways. The staff felt relieved of much responsibility, and the children themselves felt a homelike security in the presence of the nurse. It is certain that the camp nurse should be considered an essential part of all future camps.

It is interesting to note that the majority of boys expressed a preference for a country camp, whilst the girls showed a decided preference for the seaside. The camp staff as a whole felt the lack of interesting country in the neighbourhood, and expressed a wish that any future seaside camp should be held on the North Wales coast.

APPARATUS.—The apparatus, purchased in the previous year, was successfully stored at Reginald Street School. Fifty extra blankets were bought to provide for the increased numbers. Three tents are to be purchased in readiness for next year's camp, this being found necessary for the advance and rear parties.

PROVISION OF MEALS.

The Education Committee maintain a kitchen and feeding centre at Temple House for necessitous children, which incidentally serves the needs of Temple House School and Feeding Centres at Trinity School and King Street Wesleyan Schoolroom.

Head Teachers and Attendance Officers notify cases of apparent necessity, and the School Medical Officer reports to the Education Committee any cases of underfed children which may be revealed by the Routine Medical Inspection. He also visits the feeding centre periodically, and menus are submitted to him for approval.

Dinners are also provided each day for between 70 and 80 of the children attending Wright Street Nursery School.

SCHOOL BATHS.

This question is dealt with in full in the report of the Organiser of Physical Training.

CO-OPERATION OF PARENTS.

PARENTS PRESENT AT MEDICAL INSPECTIONS.—Every care is taken to notify the parents when the inspection is being held. Parents were present in 3,465 instances, this being an increase of 542 on the number present in 1929.

As practically none of the parents of the 12-year-old children are present, the percentage is really more satisfactory than it appears. As a matter of fact, in the case of the entrant group, the parents were actually present in 76 per cent of the cases.

Parents are instructed to attend at regular intervals during the morning or afternoon, so that they do not wait for long periods before interviewing the Inspecting Medical Officer.

CO-OPERATION OF TEACHERS AND SCHOOL ATTENDANCE OFFICERS.

The Medical Inspection of School Children's Department again worked very harmoniously with the Education Department, Teachers, and School Attendance Officers; and difficulties with parents have been reduced to a minimum. The teachers have given great help by bringing forward for examination cases with obvious or suspected defects, and by promptly notifying cases of suspected infectious disease.

CO-OPERATION OF VOLUNTARY BODIES.

1. **INVALID CHILDREN'S AID ASSOCIATION.**—There has been better co-ordination between the School Medical Department and the Invalid Children's Aid Association during the year. Many cases have been referred by the School Medical Officer to this Association, who have not only provided allowances for increased food, but have also undertaken to send cases to the seaside and helped them in various ways.

2. **NATIONAL SOCIETY FOR THE PREVENTION OF CRUELTY TO CHILDREN.**—The Officer of the N.S.P.C.C. has again rendered valuable service to the Department during the year. Several cases of neglect were reported to him by the School Teachers, School Attendance and the School Medical Departments. A decided improvement took place after the Inspector's visits.

3. **UNITED SERVICES FUND**—This fund has been available for a large number of children during the past year, and the good results of extra nourishment provided have been noted in many of these cases.

BLIND, DEAF, DEFECTIVE AND EPILEPTIC CHILDREN.

Methods of dealing with the above have been the same as in previous years, and as reported in previous Annual Reports.

BLIND.—One case of blindness was examined during the year for admission to a Blind Institution.

DEAF.—Three children were examined with a view to admission to a Deaf and Dumb Institution.

MENTALLY DEFECTIVES.—Thirteen children were examined under the Mental Deficiency Act, 1913.

SUMMARY.

Seven were certified incapable, by reason of mental defect, of receiving benefit from instruction in a Special School or Class.

Five were certified incapable, by reason of mental defect, of receiving further benefit from instruction in a Special School or Class.

One was certified feeble-minded (over sixteen years of age).

Children who are dull and backward in ordinary elementary schools are examined either specially at the request of the teacher, or seen as special cases at the Routine Medical Inspection.

EPILEPTIC.—No cases of epilepsy were examined during the year for institutional treatment.

TEMPLE HOUSE SCHOOL.

The School continues to do excellent work, and the number of children who have had the benefit of the special training since the opening in 1901 is now 757.

ADMISSIONS.—Examinations of candidates for admission to this school were held on 14th January, 24th January, 8th April, 4th July, 22nd July, and 25th July. Fifty-four children were brought forward at these examinations. Forty-seven were certified capable of receiving benefit from instruction at this school, two were certified fit to attend an Elementary School, and the admission of five children was postponed. In addition, ten children failed to attend for examination when requested to do so.

The following shows the age and sex respectively of the children admitted during the year :—

					Males.	Females.
Age	7	...	...	...	7	4
„	8	...	...	...	2	6
„	9	...	...	...	3	4
„	10	...	...	...	4	2
„	11	...	...	...	2	3
„	12	...	...	...	—	2
					<hr/>	<hr/>
					18	21
					<hr/>	<hr/>

Discharges.—The following children were discharged from the school during the year ended 31st December, 1930, and their present occupation, as far as can be ascertained, is noted :—

- E.N. (f) Unemployed.
- H.D. (m) Attending Private School.
- G.B. (m) Unemployed.
- M.C. (f) Do.
- F.H. (m) Newspaper boy.
- D.S. (m) Transferred to Elementary School.
- A.R. (f) Left Town.
- R.C. (f) Factory Hand.
- C.S. (f) Hosiery Hand.
- F.K. (m) No Trace.
- E.P. (f) Do.
- O.W. (f) Chopping Firewood.
- D.G. (f) Unemployed.
- D.H. (f) Shoe-lace Maker.
- N.W. (f) Transferred to Elementary School.

SECONDARY SCHOOLS.

The number of Secondary Schools in Derby is four, viz., the Bemrose School (Boys), Parkfields Cedars Secondary School for Girls, the Derby School (Boys), and the School of Art (Boys and Girls).

ACCOMMODATION :—

The Bemrose School (Boys)	...	685
Parkfields Cedars Secondary School		
for Girls	... ..	400
Derby School (Boys)	... ..	265
School of Art (Boys and Girls)	...	80
		1430

MEDICAL INSPECTION.—The requirements of the Board with regard to Medical Inspection have not been carried out completely. Owing to pressure of work, only the entrants and those aged 12 and 15 years were examined at the Bemrose and Parkfields Cedars Schools, and the Derby School was not examined at all.

The total number of pupils inspected was 552. Of these 306 were boys and 246 girls.

The numbers examined at the various schools at their respective ages were as follows :—

School.	Ages.													Total.
	7	8	9	10	11	12	13	14	15	16	17	18	19	
The Bemrose School (Boys)	2	5	13	26	49	99	3	8	59	1	...	...	...	265
Parkfields Cedars Secondary School for Girls }	...	...	...	18	49	86	6	3	53	1	...	...	...	216
School of Art (Boys and Girls)...	...	...	...	...	...	1	27	34	9	...	...	...	...	71
Totals ...	2	5	13	44	98	186	36	45	121	2	...	...	...	552

The following shows the number of defects treated at the clinics :—

Visual Defects	...	...	50
Dental do.	...	...	150
Other do.	...	...	25

The remaining children found to have defects promised to obtain treatment elsewhere.

CONTINUATION SCHOOLS.

The School Medical Service has not up to the present dealt with Continuation Schools.

EMPLOYMENT OF SCHOOL CHILDREN.

The number of children employed during 1930 was 146.

During the year, 163 boys were examined as to their fitness to undertake employment. Of these, 160 were certified fit, two were certified unfit, and one was certified fit on re-examination.

<i>Occupation.</i>	<i>Number of Children engaged.</i>		
	<i>Boys.</i>	<i>Girls.</i>	<i>Total.</i>
Errands	15	...	15
Paper Delivering	118	...	118
Butchers' Boys	4	...	4
Greengrocers' Boys	3	...	3
Grocers' Boys	6	...	6
Totals	146	...	146

THE WORK OF THE SCHOOL NURSES.

Seven nurses are now engaged on the work of the School Medical Services.

Summary.

Home Visits :—

Infectious Diseases	...	...	1305
re Spectacles	...	...	245
re Nose and Throat Defects...			248
Unsuccessful	...	...	214
Miscellaneous	417
Total			2429

Visits to Schools :—

Number of Visits paid	...	325
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Visits to Nursery Schools :—

Number of visits paid	...	308
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CLINICS :—

Minor Ailments Clinic, Mill Hill Lane	...	539
Minor Ailments Clinic, St. Helen's Street	...	123
Minor Ailments Clinic, Pear Tree School	...	85
Minor Ailments Clinic, Traffic Street School		85
Minor Ailments Clinic, Firs Estate School	...	83
Minor Ailments Clinic, Allenton School	...	83
Minor Ailments Clinic, Nottingham Road School	...	125
Inspection Clinic, Mill Hill Lane	...	112
Ophthalmic Clinic, Mill Hill Lane	...	113
Skin Clinic, Mill Hill Lane	...	36
Aural Clinic, Mill Hill Lane	...	30
Ultra-Violet Ray Clinic, St. Helen's Street	...	313
Ultra-Violet Ray Clinic, Mill Hill Lane	...	423

VERMIN CLINICS :—

Total number of cases attended—

Body Vermin	...	6
Verminous Head	...	247
Total number of attendances	...	427

Further particulars in connection with this work are given in Appendix, Table IV., Group 5.

SPECIAL ENQUIRIES.

A short analysis of the physical condition of 100 Nursery School entrants by Alexander Morrison, L.R.C.P., etc., School Medical Officer, Derby County Borough :—

Ages.	Between 2 and 3 years of age	...	61
	Between 3 and 4 years of age	...	33
	Between 4 and 5 years of age	...	6
Type of Feeding.	Breast Fed	... ..	76
	Bottle Fed	... ..	24
Nutrition.	Normal	... ..	78
	Malnutrition	... ..	22
Teeth.	Defective	... ..	34
Throat.	Normal	... ..	27
	Tonsils ++ c Adenoids	... ..	9
	Tonsils (Slightly)+	... ..	64
Glands.	Normal	... ..	63
	Submaxillary (Slight)+	... ..	23
	Submaxillary+	... ..	2
	Cervical (Slight)+	... ..	7
	Cervical and Submaxillary (Slight)+	...	5
Ears.	Otorrhœa	... ..	2
Rickets.	Breast Fed—21	}	29
	Bottle Fed—8		
Chest.	Bronchial Catarrh	... ..	22
	Bronchial Irritation	... ..	12
Heart.	Mitral Systolic	... ..	2
Previous Diseases.	Measles	... ..	47
	Whooping Cough	... ..	29
	Chicken Pox	... ..	10
	Pneumonia	... ..	5
	Diphtheria	... ..	4
	Mumps	... ..	1
	Scarlet Fever...	... ..	—

The Nursery School where these children are pupils is situated in Wright Street, Derby. This is an old part of the town and a

typically slum district. The houses are small, dilapidated, and for the most part in poor sanitary condition. The occupation of the fathers is chiefly of the unskilled type—labourers, etc.—and there is a considerable amount of poverty. The birth-rate is high in this area; the average number of children in the family at the time each of the above children was admitted was approximately four, exclusive of those who had died.

There is a long waiting list for the school, and the children are admitted unless, in exceptional cases, in chronological order. The desirable age for admission is three years, and the large number admitted at lower than this age indicates the anxiety of the mothers to have their children enrolled as prospective pupils as soon after birth as possible.

All the children were examined within six weeks of entering the school.

It is satisfactory to note that 76% of the children were breast-fed when babies. This type of feeding is adopted for three reasons—

(1) Custom.

(2) The belief widely accepted by mothers that while they are breast feeding one child they cannot become pregnant.

(3) Cheapness.

The term “breast fed” in this connection, however, requires modification. Few of these children are wholly breast fed—accessory feeding is frequently adopted after the first few months, also in many cases feeding is also continued much later than nine months for reason (2) above.

NUTRITION.—22% of the children were definitely suffering from Malnutrition on admission. The standard adopted for the limit of normal nutrition was low, *e.g.*,

From 2 to 3 years old	...	...	24 to 28 lbs.
From 3 to 4 years old	...	...	28 to 32 lbs.
From 4 to 5 years old	...	...	32 to 36 lbs.

Consideration, of course, was given to comparative height, general state of body fat, condition of skin, eyes, etc., and the presence of rickets. Hereditary factors were also taken into account.

It will thus be seen that the proportion of badly nourished children is relatively very high.

The causes of this are, in my opinion, chiefly—

(1) A diet deficient in the essential qualities (white bread is undoubtedly the foundation of every meal) and irregular feeding.

(2) Too little sleep (little children may be seen in the streets as late as 9 p.m.) and sleeping in overcrowded rooms.

TEETH.—34% of the children had one or more defective teeth. This again is a high proportion, and must be attributed mainly to defective diet, although the hereditary factor must not be forgotten. It is noteworthy that teeth and rickets were a combined defect, eleven cases out of twenty-nine showing signs of rickets.

TONSILS AND ADENOIDS.—No fewer than 73 children were found to have enlarged tonsils. Of these, nine were suffering also from adenoids, were definite mouth breathers, and had tonsils. ++ The remaining 64 had their tonsils varying in size, but in very few of these was there any positive evidence of a diseased condition.

The proportion is so high that one is tempted to believe that this was in the main a normal condition, especially as many of those cases, seen later, were found to have their tonsils much reduced in size. It is stated that the functions of the tonsils, whatever they may be, are active up to four years of age, and this may be a contributory cause. On the other hand, enlarged tonsils were associated with—

- (1) 24 out of 25 cases of submaxillary glands.
- (2) 29 out of 34 cases of defective teeth.
- (3) 26 out of 29 cases of rickets.
- (4) 29 out of 34 cases of chest abnormalities (Bronchial Catarrh, etc.).

It is more likely, judging from this list, that enlargement of the tonsils is fostered by the same conditions which cause rickets and carious teeth, and that they in turn becoming infected, lead to enlarged glands and frequent Bronchial Catarrh. The fact that 29 cases out of 34 of frequent chest colds were associated with enlarged

tonsils would surely indicate that there was a definite connection between them. Out of the 29 cases of rickets, however, no fewer than 12 were noted as suffering from bronchial trouble. It is, therefore, just possible that the same deficiency which causes rickets contributes also to a catarrhal predisposition, and that a vicious circle is established. In addition to these figures, it was found that 10 of the 29 cases of rickets were associated with the combined defects of enlarged tonsils and carious teeth. Generally speaking, the findings of the Committee of the Board of Education on this subject, that there is a definite association with rickets, carious teeth and enlarged tonsils, would appear to work out in this small investigation.

RICKETS.—The 29 cases of rickets were all children who had well-defined bony changes in the skull, chest or legs. This number compares favourably with the heavy incidence in those children in Stockton-on-Tees examined by Dr. McGonigle, and it is possible that many more cases would have been diagnosed as rickets had more rigid standards been adopted.

The children diagnosed in this survey were rachitic beyond all controversy. It is interesting to note that of those cases of rickets, 21 were breast-fed children and eight were bottle-fed. Of the total number of children examined, 76 were breast-fed and 24 bottle-fed; thus, the proportion of breast-fed babies who developed rickets was 27·6%, and of bottle-fed babies 33·3%. This would indicate that if the foundations of rickets are laid in the first few months of life, breast-fed babies are just as liable to rickets as those artificially fed. This, of course, is quite reasonable if the food of the nursing mother is deficient in Vitamin D. It is, however, not clearly shown how early in the course of rickets definite bony changes are established, and it is, of course, possible that some of the cases of breast-fed children developed rickets after breast feeding had been stopped. As, however, we have no clear data as to the number of breast-fed children who had artificial accessory feeds, no certain conclusion can be claimed, but it is evident that the food of the nursing mother from the standpoint of the incidence of rickets in the child is of far greater importance than has hitherto been believed.

BRONCHIAL CATARRH.—The chest conditions were chiefly those of bronchial catarrh. Of the 100 children examined, 22 were bronchitic at the time of inspection, and 12 had a history of recurrent chest colds. Several of these were sent for examination by the Tuberculosis Officer, but in no case was a positive diagnosis of Tuberculosis made. In my opinion, the vast majority of those chest conditions were due to enlarged tonsils and adenoids, always keeping in mind the possibility of a catarrhal diathesis being occasioned by the lack of Vitamins A and D.

CARDIAC FINDINGS.—It is significant that only two cases of heart abnormalities were found. One of these was a congenital condition; the other was a case of mitral systolic irregularity, in which there was a history of rheumatism. In children attending the Elementary Schools in Derby there is a percentage of 4·5 children suffering from heart defects, so that the proportion in this small group was very low. I think one may deduce from this that the incidence of rheumatism is low in children up to three years old. As these young children are rarely at rest, one would expect cardiac complications in the presence of rheumatism, acute or sub-acute. Dr. Carey F. Coombs says that it seems certain that in one-third of all cases of rheumatism the invasion takes place through the tonsil. In these children, therefore, many of whom have enlarged tonsils but not actually suffering from rheumatism, and many of whom are suffering from malnutrition, have we not at least a fertile field for the seeds of this crippling disease?

PREVIOUS DISEASES.—The large numbers of children in this school who had suffered from measles and whooping cough before entering the school can be adequately explained by the comparatively large families and insufficient living room in the houses. There still exist, however, those parents who, when one child develops measles, and believing that this disease is inevitable to all children, make no attempt to isolate the patient, hoping to get all their troubles over at one time. Fortunately, this type of parent is gradually disappearing. Incidentally, this large number of children protected against measles may explain the comparative immunity from devastating epidemics of this disease which Nursery Schools enjoy. It is, however, a serious matter that so many

children suffer from measles. In 1928, measles was the cause of death in 429 children under the age of fifteen—more than half of them under five years of age. Moreover, as Sir George Newman remarks, “It opens the door in childhood to many other morbid conditions.”

Similar observations could be made in respect of whooping cough, which exceeds even measles in its danger to the lives of young children, and its evil consequences for those who survive. The remedies would appear to lie chiefly in—

- (1) Education of parents.
- (2) Better housing conditions.

It is noteworthy that not one of these children had suffered from scarlet fever. In 1929, out of 1,059 cases of scarlet fever in Derby, only eight occurred under two years of age. Assuming that there is also a low incidence of rheumatism at these ages, does it indicate a natural resistance in young children to streptococcal infections?

IRRADIATION OF SCHOOL CHILDREN.

BY SIR LEONARD HILL, M.B. LOND., F.R.S., DIRECTOR OF RESEARCH, LOND. LIGHT AND ELECT. CLINIC.	AND	ALAN R. LAURIE, M.B. ED., D.M.R.E., M.O., ULTRA-VIOLET CLINICS, DERBY EDUCATION COMMITTEE.
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A PAPER by Dr. Dora Colebrook on Irradiation and Health was published in the Special Report Series (No. 131) of the Medical Research Council in 1929. Based on the substance of her report, at the time unpublished, criticisms of light treatment appeared in the preface to the annual report of the Medical Research Council published earlier in that year. These criticisms excited much comment in the lay press, particularly so as light treatment had been used in the case of the King's illness, and apparently with success. Coming from such a source, the criticisms had an inhibiting effect on those who were considering the adoption or the extension of this method.

A NEGATIVE FINDING.

Dr. Colebrook having selected a school in which to investigate the effect of irradiation on the health and development of children, divided these into three groups, two of which were irradiated, the one by a naked arc lamp, the other by a lamp screened with window glass, while the third received no irradiation at all. Records were kept of height and weight, of incidence and duration of colds and allied conditions, of attack-rate of infectious diseases, of occurrence of chilblains, and of progress in school work. The results of irradiation were negative in all respects. In considering the striking discrepancy between these negative results and positive ones obtained by many medical officers at home and abroad, certain facts have to be borne in mind. First the school selected by Dr. Colebrook was not one in the slums of London, where the absence of light is greatest, but one in Willesden, where the conditions are good. Houses there are low-built, roads wide, the selected school modern, well-lit and having a large playground, and the district situated on the side of London where the westerly winds blow the smoke away, and ultra-violet readings are high, as shown by one of us (L.H.), using the acetone-blue gauge. Before any conclusions could justly be drawn such a school had to be contrasted with one situated in a poor district of central London. Secondly, Dr. Colebrook may have over-dosed the children with powerful shorter ultra-violet rays. Those experienced in light treatment recognise the ill-effect of over-dosage. The children were irradiated from September to March on three days a week, with an interval at Christmas, and a powerful long-flame arc was used. A ten-minute exposure of 2ft. 4 in. from the flame "gave a strong reaction with redness lasting for six days" in an adult. But the production of erythema cannot be used safely in children as a test of dosage; the children were put round the lamp at 2 ft. 2 in. from the flame, this being on a level with the middle of the child's trunk. The front and back body surfaces were irradiated on alternate sessions; circles were also painted on the floor at 2 ft. 6 in., 3 ft., and 3ft. 6 in. from the lamp; the maximum dose was obtained with the children 2 ft. 2 in. away from the lamp for 15 minutes, the arc running on 70 volts and 30 amperes, the minimum dose with the children 3 ft. 6 in. away for five minutes, the arc running on 45 volts and

25 amperes. During the last part of the winter metal-cored carbons were used to intensify the dose. Mr. T. C. Angus measured the ultra-violet radiation of this arc lamp with the aid of a photo-electric cell, and found the strongest intensity to be about nine times that of a new Hanovia mercury-vapour lamp, which had settled down in action, while the weakest intensity used was nearly twice that of this mercury-vapour lamp.

RECORDED POSITIVE RESULTS.

At the Finsen Institute, Dr. Axel Reyn had insisted on the greater utility of the short-flamed arc, which gives relatively more infra-red and visible rays and less short ultra-violet rays. Long exposures are given by Dr. Reyn to such arcs and the patients made to redden and sweat with the heat; such exposure may be terminated by a cold shower bath. The statistics of this Institute show that results have been obtained by means of artificial light as good as those obtained by Rollier at Leysin by means of heliotherapy. Dr. Sequeira, no less, has obtained good results at the Light Clinic at the London Hospital, and Mr. W. S. Duke-Elder has reported very favourably on irradiation as a means of treatment of certain diseases of the eye. Good results had been obtained by Dr. Eidinow and one of us (L.H.) at the Light Clinic which they had got started in the New End Hospital, Hampstead, in which treatment was carried on by Dr. Madders as a voluntary worker. Favourable reports were received, too, by L. H. from several welfare clinics in which light treatment had been introduced on his suggestion. Dr. Murray Levick had obtained extraordinarily good results through irradiation of marasmic children. Favourable experience in regard to irradiation of children had been reported by Gamgee at Hull, Taylor and Griffiths at Aberdeen, and Banks at Motherwell—these among others. There were known, also, the good results of irradiation of animals at the Zoo which had been introduced in accordance with the advice of one of us (L.H.). By the introduction of open-air and artificial light treatment in the new monkey-house tuberculosis has been almost abolished. After completion of Dr. Colebrooks' research, which gave negative results in the case of children living in good conditions and treated by short exposures to a powerful long-flamed arc, further research was then obviously

indicated on children living under worse conditions and given light treatment with other intensities and times of exposure.

Such research was, therefore, initiated by us in the planning of which any personal bias was as far as possible eliminated by advice of statisticians. The results of this research are now given. The good results obtained by Huldshinsky, Hess and others, through irradiation of rickety children has been attributed to the formation of vitamin D in the skin, and it has been claimed that the giving of vitamin D by the mouth has all the good effect which irradiation has on children and offers a cheaper and easier means of treatment. It was decided to test this as well as the general efficacy of irradiation.

A Controlled Investigation in Derby.

Four areas of the town of Derby were selected—roughly, North, South, East, and West—and a random sample of 100 children were taken from each area. Four groups were formed, each group consisting of 25 children from each area, so that all groups were comparable as regards living conditions. The ages were between 9 and 12 years, and as the groups were formed by random sampling, any effect of age was minimised. The test extended over 16 weeks—from November, 1929, to March, 1930, with a break of a fortnight at Christmas.

Group 1 were given radiation 6 ft. away from a long flame tungsten-cored carbon arc twice weekly. The lamp ran on 85 volts and 15 amperes and the maximum dose was 10 minutes back and 10 minutes front 6 ft. away, about one-tenth of the maximal dose used by Dr. Colebrook, and this given twice, not thrice a week.

Group 2 were given one radiostol pellet at school daily. Each pellet has a dosage of vitamin D equivalent to that in about 2 oz. of a good cod-liver oil.

Group 3 were given exactly similar looking pellets but containing no radiated ergosterol daily, and attended, also for exposure to an arc fitted with a glass screen, twice weekly. This group was put in to demonstrate the part, if any, that psychology plays in the taking of pellets and the mere fact of undressing before a lamp.

Group 4 were controls, who had nothing done for them at all. The children were examined before the test, and the following points noted on the individual chart :—

- | | |
|--------------------------|--|
| 1. Height and weight. | 9. Cervical and submaxillary glands |
| 2. Hair abnormalities. | |
| 3. Skin abnormalities. | 10. Evidence of gross disease
<i>e.g.</i> , T.B. joints, rickets. |
| 4. Conjunctivæ. | 11. Liability to any particular disease. |
| 5. Temperament. | 12. Heart and Lungs. |
| 6. Eating. | |
| 7. Sleeping. | |
| 8. Tonsils and adenoids. | |

Six local practitioners took part in the examination—four of them took the heart and lungs, and two others the remainder. They conferred beforehand, to evolve a uniform method of recording. The treatments were then carried out and the children re-examined by the same doctors who had first examined them, but who were in complete ignorance of the groups to which the children belonged. The test was therefore secret, and the doctors could not be influenced in favour of any particular treatment. Unfortunately there was an epidemic of various infectious diseases in the town during the 16 weeks, which greatly curtailed our numbers, but the following results were based on 250 cases. No deductions were drawn from the following : hair, skin, heart and lung, and dental examinations (separate examination by school dental surgeons).

(a) *Weight.* Average gain in weight in lbs. per child :—

Group 1	...	...	2.42	Group 3	...	...	1.81
„ 2	...	...	2.17	„ 4	...	...	1.91

(b) *Tonsil and gland group.*

Group.	Total.									
1	...	33	...	26	remain the same,	7	improve.			
2	...	29	...	20	„ „ „	3	„	6	worse	
3	...	38	...	28	„ „ „	nil	improve,	10	worse	
4	...	27	...	27	„ „ „					

(c) *Percentage improvement in Groups 1 to 4.*

	(1)	(2)	(3)	(4)
Conjunctivæ	...	...	...	...
Eating and sleeping	...	...	...	...
Liability to winter complaints, colds, bronchitis	...	...	...	...
	30	13	Nil	10
	57	45	17	7
	30	21	15	7

(d) Any *improvement on any chart* was marked with a plus and the addition of these showed the groups to come out as follows :—

Group 1	...	...	162	Group 3	...	...	70
„ 2	...	...	130	„ 4	...	...	30

(e) *Percentage of children in each group who improved in any respect* :—

Group 1	...	...	80	Group 3	...	...	34
„ 2	...	...	47	„ 4	...	...	24

Conclusions.

Apart from these statistical results, the following deductions may fairly be made :—

1. That marked improvements under any particular heading, or class of headings, are always shown in Groups 1 and 2, and not by a small margin that could be due to fortuitous circumstances, but by a really appreciable margin.

2. That in no case do Groups 3 and 4 show better results than 1 and 2.

3. That Group 1 always shows slightly better results than Group 2.

4. That in *no* case, in Groups 1 and 2, was there any retrogression in the health of the children, except in the single instance of glands, for which there was an underlying cause, untreated except by irradiation.

5. The cases which made the really spectacular improvements were in Group 1.

6. The only instances of grateful thanks by parents were in Group 1 (spontaneous thanks noted).

7. The greatest effect on children seemed to be on their eating and sleeping.

8. The improvement has been most marked, in the case of the ultra-violet ray treatment, in the very headings we should most expect it, and slight, or absent, in the gland group, where there are such underlying causes as tonsils, bad teeth, and lice.

9. The period was too short to expect much change in temperament, but many parents reported the excellent effects of irradiation on nervy children, and that some children became naughtier.

Maugham and Smiley at Cornell University report that they have reduced the number of colds almost 60 per cent. among irradiated, cold-susceptible men as compared with the non-irradiated groups. Each man had 15 minutes total irradiation once a week, in an artificial "solarium" fitted with mercury-vapour lamps. There were about 300 receiving regular treatments. Successful results have been obtained by them during the last three winters. In America such "solaria" have been put up in factories. If even half the relief claimed to be given to these university students could have been given to the population at large, what an immense saving would have been effected.

We are indebted to the authorities, the school medical staff, and the local practitioners who took part in the Derby scheme and helped to make this research possible.

MISCELLANEOUS WORK.

Industrial Schools.—Eight children were examined and certified during the year.

Teachers.—The total number of teachers examined during the year after absence from duty owing to illness was 19, all of whom were certified fit to resume duty.

Bursars.—Eighteen bursars were examined during the year and certified medically fit.

Student Teachers.—Seven student teachers were examined during the year, all of whom were certified fit.

Pupil Teachers.—Eight pupil teachers were examined during the year, all of whom were certified medically fit.

APPENDIX.

(PUBLIC ELEMENTARY SCHOOLS).

TABLE I.—RETURN OF MEDICAL INSPECTIONS.

A.—ROUTINE MEDICAL INSPECTIONS.

Number of Code Group Inspections :—

Entrants	...	...	...	...	...	2601
Intermediates		...	...	...	...	2232
Leavers	...	...	...	...	...	1426

Total		...	...	...	...	6259

Number of other Routine Inspections ... 1693

B.—OTHER INSPECTIONS.

Number of Special Inspections	...	...	...	3454
Number of Re-inspections	...	...	...	8215

Total	...	...	...	11669

TABLE II.

**A. Return of Defects found by Medical Inspection in the year ended
31st December, 1930.**

Defect or Disease.					Routine Inspections		Special Inspections	
					Number of Defects		Number of Defects	
					Requiring treatment	Requiring to be kept under observation, but not requiring treatment.	Requiring treatment.	Requiring to be kept under observation, but not requiring treatment
Malnutrition					170	122	106	..
Uncleanliness— (See Table IV., Group 5).					..	..	..	..
Skin ..	Ringworm—							
	Scalp				4	..	78	..
	Body				3	..	87	..
	Scabies				3	..	29	..
	Impetigo				23	..	1083	..
Other Diseases(Non-Tuberculous)					45	3	976	..
Eye ..	Blepharitis				15	1	199	..
	Conjunctivitis				5	..	94	..
	Keratitis .. .. .				..	..	22	..
	Corneal Opacities .. .. .				..	..	..	..
	Defective Vision				543	13	669	5
	Squint				71	6	145	..
	Other Conditions				12	..	234	1
Ear ..	Defective Hearing				36	3	83	1
	Otitis Media				78	..	260	..
	Other Ear Diseases				25	1	141	..
Nose and Throat	Enlarged Tonsils only				365	196	128	2
	Adenoids only				41	17	28	2
	Enlarged Tonsils and Adenoids				230	47	338	4
	Other Conditions				28	8	55	2
Enlarged Cervical Glands (Non-Tub.) ..					5	12	79	..
Defective Speech					4	3	1	1
Teeth—Dental Diseases					313	..	48	..
Heart and Circulation	Heart Disease—							
	Organic				25	5	7	..
	Functional				52	124	58	..
Anæmia					82	50	104	..
Lungs ..	Bronchitis				168	9	170	..
	Other Non-Tuberculous Diseases				43	81	23	..

TABLE II. A. (continued).

<i>Tuberculosis</i>	Pulmonary—						
	Definite	..	..	14	..	24	..
	Suspected	..	..	48	2	64	1
	Non-Pulmonary—						
	Glands	..	..	10	..	17	..
	Spine	..	..	..	..	..	..
	Hip	..	..	4	1	5	..
	Other Bones and Joints	..	..	..	..	3	..
<i>Nervous System</i>	Skin	..	..	..	..	2	..
	Other Forms	..	..	..	..	..	..
<i>Nervous System</i>	Epilepsy	..	..	11	..	11	..
	Chorea	..	..	12	..	34	..
	Other Conditions	..	..	41	4	62	..
<i>Deformities</i>	Rickets	..	..	53	12	30	..
	Spinal Curvature	..	..	22	9	3	..
	Other Forms	..	..	22	3	24	1
Other Defects and Diseases				280	46	8243	..

TABLE II.—B.

Number of individual children found at Routine Medical Inspection to Require Treatment (excluding uncleanness and dental diseases).

Group.	Number of Children.		Percentage of Children found to require treatment.
	Inspected.	Found to require treatment.	
Code Groups —			
Entrants	2601	696	26·76
Intermediates	2232	582	26·08
Leavers	1426	348	24·40
Total (code groups) ..	6259	1626	25·98
Other routine inspections	1693	422	24·93

TABLE III.
Return of all Exceptional Children in the Area.

		Boys.	Girls.	Total.
<i>Blind (including partially blind)—</i>	Attending Certified Schools or Classes for the Blind	1	1	2
(i.) Suitable for training in a School or Class for the totally blind	Attending Public Elementary Schools	—	—	—
	At other Institutions	—	—	—
	At no School or Institution ...	—	1	1
(ii.) Suitable for training in a School or Class for the partially blind.	Attending Certified Schools or Classes for the Blind	—	—	—
	Attending Public Elementary Schools	—	—	—
	At other Institutions	—	—	—
	At no School or Institution ...	—	—	—
<i>Deaf (including deaf and dumb and partially deaf)—</i>	Attending Certified Schools or Classes for the Deaf	8	7	15
(i.) Suitable for training in a School or Class for the totally deaf or deaf and dumb.	Attending Public Elementary Schools	—	—	—
	At other Institutions	—	—	—
	At no School or Institution ...	—	—	—
(ii.) Suitable for training in a School or Class for the partially deaf.	Attending Certified Schools or Classes for the Deaf	—	—	—
	Attending Public Elementary Schools	—	—	—
	At other Institutions... ..	—	—	—
	At no School or Institution ...	—	—	—
<i>Mentally Defective—</i>	Attending Certified Schools for Mentally Defective Children ...	46	67	113
Feeble-minded (cases not notifiable to the Local Control Authority.)	Attending Public Elementary Schools	—	—	—
	At other Institutions... ..	—	—	—
	At no School or Institution ...	—	—	—
<i>Epileptics—</i>	Attending Certified Special Schools for Epileptics	3	1	4
Suffering from severe epilepsy.	In Institutions other than Certified Special Schools	1	—	1
	Attending Public Elementary Schools	—	—	—
	At no School or Institution ...	—	4	4
Suffering from epilepsy which is not severe.	Attending Public Elementary Schools	11	8	19
	At no School or Institution ...	—	—	—
<i>Physically Defective—</i>	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board	3	3	6
Infectious pulmonary and glandular tuberculosis	At other Institutions... ..	—	1	1
	At no School or Institution ...	12	7	19

TABLE III.—*continued.*

		Boys	Girls.	Total.
<i>Physically Defective (continued)—</i>				
Non-infectious but active pulmonary and glandular tuberculosis.	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board	2	1	3
	At Certified Residential Open Air Schools	—	—	—
	At Certified Day Open Air Schools	—	—	—
	At Public Elementary Schools	69	49	118
	At other Institutions	—	1	1
	At no School or Institution	9	7	16
Delicate children (<i>e.g.</i> , pre- or latent tuberculosis, malnutrition, debility, anæmia, etc.)	At Certified Residential Open Air Schools	—	—	—
	At certified Day Open Air Schools	—	—	—
	At Public Elementary Schools	318	412	730
	At other Institutions... ..	—	—	—
	At no School or Institution	—	—	—
Active non-pulmonary tuberculosis	At Sanatoria or Hospital Schools approved by the Ministry of Health or the Board	2	4	6
	At Public Elementary Schools	13	18	31
	At other Institutions... ..	3	5	8
	At no School or Institution	6	2	8
Crippled Children (other than those with active tuberculous disease), <i>e.g.</i> , children suffering from paralysis, etc., and including those with severe heart disease.	At Certified Hospital Schools	3	1	4
	At Certified Residential Cripple Schools	—	—	—
	At Certified Day Cripple Schools	—	—	—
	At Public Elementary Schools	62	46	108
	At other Institutions... ..	1	2	3
	At no School or Institution	4	5	9

TABLE IV.

Return of Defects treated during the year [ended] 31st December,
1930.

Treatment Table.

Group I.—Minor Ailments (excluding Uncleanliness, for which see
Group V.).

Disease or Defect.	Number of Defects treated, or under treatment during the year.		
	Under the Authority's Scheme.	Otherwise.	Total.
Skin :—			
Ringworm Scalp	77	2	79
Ringworm Body	83	2	85
Scabies	31	..	31
Impetigo	1086	6	1092
Other Skin Disease	930	14	944
Minor Eye Defects	518	14	532
(External and other, but excluding cases falling in Group II.)			
Minor Ear Defects	463	54	517
Miscellaneous	7487	74	7561
(e.g., minor injuries, bruises, sores, chil- blains, etc.)			
Total	10675	166	10841

**Group II.—DEFECTIVE VISION AND SQUINT (excluding
Minor Eye Defects Treated as Minor Ailments.—Group I.)**

Defect or Disease.	Number of Defects dealt with.			
	Under the Authority's Scheme.	Submitted to refraction by private practitioner or at hospital, apart from the Authority's Scheme.	Otherwise.	Total.
Errors of Refraction (including Squint)	977	21	8	1006
Other Defect or Disease of the eyes (excluding those re- corded in Group I.) ..	..	..	..	..
Total	977	21	8	1006

Total number of children for whom spectacles were prescribed

(a) Under the Authority's Scheme	945
(b) Otherwise	29

Total number of children who obtained or received spectacles

(a) Under the Authority's Scheme	890
(b) Otherwise	29

GROUP III.

TREATMENT OF DEFECTS OF NOSE AND THROAT.

Number of Defects.				
Received Operative Treatment.			Received other forms of treatment.	Total number treated.
Under the Authority's Scheme, in Clinic or Hospital.	By Private Practitioner or Hospital, apart from the Authority's Scheme.	Total.		
44	400	444	89	533

Group IV.—Dental Defects.

(1) Number of children who were:—

(a) Inspected by the Dentist:

Aged :					
Routine Age Groups	5	1855	}	Total	14341
	6	1961			
	7	1924			
	8	2278			
	9	2396			
	10	2328			
	11	1599			
	12	—			
	13	—			
	14	—			
Specials	..	..	..	..	538
Grand Total	..	..	..	..	14879
(b) Found to require treatment	..	..	..	..	9383
(c) Actually treated	..	..	..	..	6124
(d) Re-treated during the year as the result of periodical examination	..	..	..	..	2742
(2) Half-days devoted to	..	{ Inspection 124 Treatment 633 }	Total		757
(3) Attendances made by children for treatment	..	..	..	..	7007
(4) Fillings	{ Permanent Teeth 1630 Temporary Teeth 3 }	Total		1633	
(5) Extractions	{ Permanent Teeth 1975 Temporary Teeth 12201 }	Total		14176	
(6) Administrations of general anæsthetics for extractions	..	..	..	..	5700
(7) Other operations	{ Permanent Teeth 41 Temporary Teeth 34 }	Total		75	

Group V.—Uncleanliness and Verminous Conditions.

(i.) Average number of visits per school made during the year by the School Nurses	..	..	..	..	4
(ii.) Total number of examinations of children in the Schools by School Nurses	..	..	..	..	39102
(iii.) Number of individual children found unclean	..	..	..	..	223
(iv.) Number of children cleansed under arrangements made by the Local Education Authority	..	..	..	..	Nil.
(v.) Number of cases in which legal proceedings were taken :—					
(a) Under the Education Act, 1921	..	..	..	..	Nil.
(b) Under School Attendance Byelaws	..	..	..	..	Nil.

APPENDIX.

(SECONDARY SCHOOLS.)

TABLE I.

RETURN OF MEDICAL INSPECTIONS.

A.—Routine Medical Inspections.

Ages.	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Totals.
Boys	..	2	5	13	26	49	99	19	29	63	1	..	..	..	306
Girls	18	49	87	17	16	58	1	..	..	..	246
Totals	..	2	5	13	44	98	186	36	45	121	2	..	..	..	552

B.—Other Inspections.

Number of Special Inspections	...	...	29
Number of Re-inspections	...	...	295
Total	...	...	324

TABLE II.

A. Return of Defects found by Medical Inspection in the year ended 31st December, 1930.

Defect or Disease.					Routine Inspections		Special Inspections.	
					Number of Defects		Number of Defects	
					Requiring treatment.	Requiring to be kept under observation but not requiring treatment.	Requiring treatment.	Requiring to be kept under observation, but not requiring treatment.
Malnutrition .. ..					..	..	2	..
Uncleanliness—								
Head .. ..					..	..	..	..
Body .. ..					..	..	..	..
Skin ..	{	Ringworm—						
		Scalp			1	..	1	..
		Body .. ..			..	..	..	..
		Scabies .. ..			..	..	..	..
		Impetigo			1	..	3	..
Other Diseases (Non-Tuberculous) ..					..	..	2	..
Eye ..	{	Blepharitis			2	..	1	..
		Conjunctivitis .. ..			..	..	..	..
		Keratitis .. ..			..	..	..	..
		Corneal Opacities .. ..			..	..	..	..
		Defective Vision			49	..	54	..
		Squint .. ..			..	..	..	..
Other Conditions .. ..					..	..	..	..
Ear ..	{	Defective Hearing			1	..	1	..
		Otitis Media			5	..	1	..
		Other Ear Diseases .. ..			..	..	1	..
Nose and Throat	{	Enlarged Tonsils only			5	..	1	..
		Adenoids only .. ..			..	..	..	1
		Enlarged Tonsils & Adenoids			4	..	3	..
		Other Conditions			2	..	1	..
Enlarged Cervical Glands (Non-Tub.) ..					..	..	..	..
Defective Speech .. ..					..	..	..	..
Teeth—Dental Diseases					196	..	..	..
Heart and Circulation	{	Heart Disease—						
		Organic			3	..	1	..
		Functional			5	..	5	..
		Anæmia			5	..	13	..
Lungs ..	{	Bronchitis			2	..	12	..
		Other Non-Tuberculous Diseases			1	..	..	..

TABLE II. A. (continued).

<i>Tuberculosis</i>	{	Pulmonary—						
		Definite	1	..	..	..
		Suspected .. ..	..	..	1	..
		Non-Pulmonary—						
		Glands .. ..	..	..	..	..
		Spine .. ..	..	..	..	..
		Hip .. ..	..	..	..	..
		Other Bones and Joints ..	..	..	..	..
		Skin .. ..	..	..	..	..
		Other Forms .. ..	..	..	..	..
<i>Nervous System</i>	{	Epilepsy .. ..	..	..	..	..
		Chorea .. ..	..	..	..	..
		Other Conditions	1	..	4	..		
<i>Deformities</i>	{	Rickets .. ..	..	..	..	..
		Spinal Curvature	12	..	..	..
		Other Forms	3	..	1	..		
Other Defects and Diseases			13	..	17	..		

B.—Number of Individual Children found at Routine Medical Inspection to require Treatment (excluding uncleanness and Dental Diseases).

Number of Children.		Percentage of Children found to require treatment.
Inspected.	Found to require treatment.	
552	103	18.66

TABLE IV.

Return of Defects Treated during the Year ended 31st December,
1930.

Treatment Table.

Group I.—Minor Ailments.

Disease or Defect.	Number of Defects treated, or under treatment during the year		
	Under the Authority's Scheme.	Otherwise.	Total.
Skin —			
Ringworm Scalp	1	1	2
Ringworm Body .. .. .	..	..	..
Scabies .. .. .	..	..	..
Impetigo	3	1	4
Other Skin Disease	2	..	2
Minor Eye Defects	2	..	2
(External and other, but excluding cases falling in Group II.)			
Minor Ear Defects	7	2	9
Miscellaneous	7	..	7
(e.g. minor injuries, bruises, sores, chil- blains, etc.)			
Total	22	4	26

Group II.—Defective Vision and Squint (excluding Minor Eye Defects treated as Minor Ailments—Group I.).

Defect or Disease.	Number of Defects dealt with.			
	Under the Authority's Scheme.	Submitted to refraction by private practitioner or at hospital apart from the Authority's Scheme.	Otherwise	Total.
Errors of Refraction (including Squint)	50	..	6	56
Other Defect or Disease of the Eyes (excluding those recorded in Group I.) ..	..	..	..	..
Total	50	..	6	56

Total number of children for whom spectacles were prescribed

(a) Under the Authority's Scheme	50
(b) Otherwise	6

Total number of children who obtained or received spectacles

(a) Under the Authority's Scheme	35
(b) Otherwise	6

DEATHS OF CHILDREN.

At Ages 5 and under 15 Years, 1930.

Cause of Death	5—10 yrs.	10—15 yrs.	Total.
Enteric Fever	—	—	—
Smallpox	—	—	—
Measles	3	—	3
Scarlet Fever	3	1	4
Whooping Cough ...	—	—	—
Diphtheria	12	1	13
Influenza	1	—	1
Encephalitis Lethargica...	—	—	—
Meningococcal Meningitis	—	—	—
Tuberculosis of Respiratory System	—	—	—
Other Tuberculous Diseases	2	1	3
Rheumatic Fever ...	3	2	5
Cancer, Malignant Disease	—	—	—
Heart Disease	1	4	5
Bronchitis	2	1	3
Pneumonia (all forms) ...	2	1	3
Other Respiratory Diseases	—	—	—
Ulcer of Stomach or Duodenum	—	—	—
Appendicitis	—	—	—
Acute & Chronic Nephritis	1	1	2
Congenital Debility and Malformation, Pre- mature Birth ...	1	—	1
Death from Violence ...	8	—	8
Other Defined Diseases	3	4	7
Causes, Ill-defined or Unknown	—	—	—
Totals	42	16	58
Estimated Population (age group) ...	11,879	12,916	24,795
Death rate per 1,000 in age group ...	3.5	1.3	2.4

Estimated Population (all ages) 1930 140,500

General Death rate per 1,000 population 11.3

iv.—INFECTIOUS DISEASES.

INCLUDING REPORTS BY

DR. HAIGH, Assistant Medical Officer of Health ;

AND

DR. RICHARDS, Venereal Diseases Medical Officer.

PREVALENCE OF AND CONTROL OVER INFECTIOUS DISEASES.

Tables showing, with regard to the infections, the total number of notifications received, the age distribution and the number of cases notified from each Ward, and the quarterly incidence of each disease, will be found on pages 163, 164 and 165.

The total number of notifications coming to hand was 9,389, and the cost of carrying out the requirements of the Acts and Regulations with regard to notification was £915 14s. 7d, the amount paid to Medical Practitioners, equivalent to £6 10s. 2d. per 1,000 of the population.

Apart from the statutory notification of disease by private doctors and those received from the various Hospitals, the Public Health Department has other means of obtaining information concerning the presence of infections, which will be discussed later.

Every notification is followed by enquiry with a visit to the infected home, such information being an essential part of the machinery for preventing the spread of disease to others. If the case is removed to Hospital, primary disinfection of the environment may follow, and in certain types of disease retained at home, terminal disinfection may be provided before the convalescent mixes with the public. Information as to home contacts is essential in order that such steps may be taken as are required by the Board of Education for the prevention of spread of infections in schools.

Particulars of action taken with regard to infectious diseases cases are given in the table on page 166, where it will be noted that 10,176 visits were made by Inspectors and Health Visitors; over and above these are a large number of personal visits made by the Assistant Medical Officer of Health for purposes of diagnosis, dealing with contacts, and for tracing possible sources of infection.

There is the fullest co-ordination between those responsible for the general oversight of children and the Health Department, as information concerning cases of infectious disease, or of children suffering from suspicious symptoms reaches the Medical Officer of Health through the following channels:—

- (a) Parental notifications.
- (b) From the School Medical Officer's Department.

(c) Reports received direct from Head Teachers of the Council's Schools.

(d) From Health Visitors.

Disinfection and Disinfestation.

The following summary shows particulars of disinfections and disinfestations carried out during the year :—

AFTER INFECTIOUS DISEASES.

Rooms Disinfected	...	...	...	...	1320
School Class-rooms Disinfected	...	...	...	...	242
Clothing (Midwives), &c. (instances)	...	...	...	...	21

OTHERS (including Cancer, Verminous conditions, &c.,
Disinfection only carried out by request).

Rooms Disinfected	...	...	...	...	49
Bedding, Clothing, &c. (instances)	...	...	...	...	20

In addition, all library books from infected houses are brought to the Health Office for disinfection, and are returned to the Public and other Libraries after this has been carried out.

BACTERIOLOGICAL, ETC., EXAMINATIONS.

The following is a summary of examinations made during the year 1930 :—

Borough Laboratory (Isolation Hospital).

Swabs for Diphtheria...	...	...	...	...	10,415
Swabs for Vincents Angina	...	...	...	...	7
Sputa by ordinary method	...	...	...	...	2,351
Sputa by E & E method	...	...	...	...	139
Urine for T.B.	...	...	...	...	5
Urine for T.B. and other organisms	...	...	...	...	1
Pus for T.B.	...	...	...	...	2
Fæces for T.B.	...	...	...	...	1
Vaginal swabs	...	...	...	...	3
Urethral swabs	...	...	...	...	1
Pleural effusion	...	...	...	...	2
Borough Laboratory Total					12,927

County Laboratory.

Swabs for K.L.B.	...	...	...	...	...	2
Swabs for Virulence K.L.B. (Cultural)	...	...	...	...	...	6
Swabs for Virulence K.L.B. (Inoculation)	...	...	...	...	...	2
Swabs for Organisms	...	...	...	...	...	1
Sputum (Microscopical)	...	...	...	...	...	2
Sputum (Cultural)	...	...	...	...	...	1
Urine for T.B.	...	...	...	...	...	13
Urine for Casts	...	...	...	...	...	5
Urine (Microscopical)	...	...	...	...	...	12
Urine (Cultural)	...	...	...	...	...	12
Eye Smears	...	...	...	...	...	3
Eye Cultures	...	...	...	...	...	9
Pus for T.B.	...	...	...	...	...	3
Pus (Cultural)	...	...	...	...	...	3
Blood Films for Malaria	...	...	...	...	...	2
Blood for Widal's Reaction	...	...	...	...	...	32
Blood for Urea	...	...	...	...	...	1
Swabs for Meningococci	...	...	...	...	...	40
Fæces for B. Typhosus	...	...	...	...	...	17
Fæces for Culture	...	...	...	...	...	2
Fæces for T.B.	...	...	...	...	...	1
						<hr/>
County Laboratory Total	...	...	...	...	...	169
						<hr/>
Grand Total	...	...	...	...	...	13,096
						<hr/>

Notifiable Diseases during the Year.

DISEASE.				<i>Total Cases Notified</i>	<i>Cases admitted to Hospital.</i>	<i>Total Deaths.</i>
Smallpox	...	...	...	1	1	...
Diphtheria	...	...	...	408	310	22
Scarlet Fever	...	...	...	820	427	10
Enteric Fever (including Paratyphoid)	...	...	...	10	...	...
Puerperal Fever	...	...	...	14	...	4
Puerperal Pyrexia	...	...	...	36	...	...
Pneumonia	...	...	...	325	...	83
Erysipelas	...	...	...	64	...	6
Cerebro-Spinal Fever	...	...	...	1	1	...
Continued Fever	...	...	...	...	...	...
Poliomyelitis	...	...	...	2	...	1
Encephalitis Lethargica	...	...	...	1	...	1
Polio-Encephalitis	...	...	...	...	...	...
Malaria	...	...	...	1	...	...
Ophthalmia Neonatorum	...	...	...	25	...	...
Measles and German Measles	...	...	...	5202	3	18
Chicken Pox	...	...	...	1954	...	...
Dysentery	...	...	...	1	...	...
Tuberculosis—						
Pulmonary	Males	...	...	128	95	67
	Females	...	...	90	67	39
	Total	...	...	218	162	106
Non- Pulmonary	Males	...	...	27	2	14
	Females	...	...	17	3	4
	Total	...	...	44	5	18

Cases of Infectious Disease Notified during 1930.

NOTIFIABLE DISEASE.		CASES NOTIFIED IN WHOLE DISTRICT.											TOTAL CASES NOTIFIED IN EACH WARD.											Non-Residents.	Total Cases re-moved to Hospital.						
		At Ages—Years.											TOTAL CASES NOTIFIED IN EACH WARD.																		
		Under 1.	1-2	2-3	3-4	4-5	5-10	10-15	15-20	20-35	35-45	45-65	65 and upwards.	Abbey.	Alvaston.	Arboretum.	Babington.	Becket.	Bridge.	Castle.	Dale.	Derwent.	Friar Gate.			King's Mead.	Litchurch.	Normanton.	Osmaston.	Pear Tree.	Rowditch.
Smallpox	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...
Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria (including Membranous Croup)	...	408	1	14	25	24	187	77	20	32	9	5	...	20	11	18	38	10	38	33	8	17	34	33	29	34	51	14	20	...	310
Erysipelas	...	64	2	...	...	...	3	1	...	6	9	27	16	5	...	5	3	5	4	...	2	3	3	14	7	2	4	2	5	...	427
Scarlet Fever	...	820	7	12	24	35	54	295	158	91	111	24	8	1	46	41	46	54	30	32	37	56	54	87	49	37	53	84	56	58	...
Typhus Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever	...	10	...	1	...	...	2	...	...	5	2	...	...	2	...	...	...	2	...	1	...	...	...	...	1	1	...	1	2	...	...
Relapsing Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Continued Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever	...	14	...	...	...	...	...	...	...	11	3	...	...	1	...	1	...	1	2	...	...	...	...	5	...	...	...	1	...	3	...
Puerperal Pyrexia	...	36	...	...	...	...	...	...	...	30	5	1	...	2	3	1	2	...	1	3	1	1	5	3	1	1	4	1	3	4	...
Cerebro-Spinal Fever	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1
Poliomyelitis	...	2	...	1	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Acute Polio-Encephalitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Acute Encephalitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lethargica	...	1	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pneumonia	...	325	27	28	15	12	13	34	11	25	29	64	22	20	31	9	13	16	10	29	11	16	12	150	23	11	28	21	25	...	...
Malaria	...	1	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dysentery	...	1	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pulmonary Tuberculosis	...	218	...	1	...	2	27	11	24	57	41	51	4	10	17	14	12	12	10	18	13	13	11	30	15	9	8	11	10	...	162
Other forms of Tuberculosis	...	44	3	4	2	2	13	3	5	5	2	1	...	2	2	1	2	3	4	8	3	2	...	4	4	4	5	...	...	...	5
Ophthalmia Neonatorum	...	25	25	...	...	...	...	...	...	...	...	...	...	1	3	1	1	...	...	3	...	1	1	4	...	2	5	2	...	...	1
Measles and German Measles	...	5202	205	408	389	506	549	2411	439	123	134	29	9	249	368	199	248	266	234	298	198	426	434	523	211	305	708	282	253	...	3
Chicken-pox	...	1954	90	124	150	178	180	1055	137	21	17	2	...	75	73	85	129	101	56	94	120	69	192	206	117	138	237	99	163	...	...
Totals	...	9127	360	592	597	758	825	4027	837	310	455	157	166	43	434	552	380	505	443	391	524	417	603	779	921	445	560	1135	491	539	899

Summary of Cases of Infectious Disease notified in each Quarter during 1930.

Quarters.	Totals	Small Pox.	Scarlet Fever.	Diphtheria including Membranous Group.	Enteric Fever	Erysipelas.	Puerperal Fever	Cerebro Spinal Fever.	Polio-m'itis.	Acute Polio-Encephalitis.	Continued Fever.	Acute Encephalitis Lethargica.	Pneumonia.	Malaria.	Chicken Pox.	Dysentery.	Pulmonary Tuberculosis.	Other Tuberculous Diseases	Ophthalmia Neonatorum	Measles and German Measles
First ..	5380	...	389	105	...	27	1	10	...	...	...	...	150	...	559	...	50	7	3	4079
Second	2131	1	187	77	1	12	6	9	1	...	...	1	80	...	588	...	72	14	3	1078
Third ..	815	...	129	75	8	10	3	11	...	...	...	...	37	1	440	...	60	10	10	21
Fourth	801	...	115	151	1	15	4	6	...	...	...	...	58	...	367	1	36	13	9	24
Year ..	9127	1	820	408	10	64	14	36	1	2	...	1	325	1	1954	1	218	44	25	5202
Deaths Regist'd in 1930	269	...	10	22	...	6	4	...	...	1	...	1	83	...	...	...	106	18	...	18

Particulars of Action taken with the Infectious Disease Cases.

										Totals
Number of Visits made by Inspectors and Health Visitors...										10176
<i>Cases Isolated. Borough Hospital :—</i>										
†Smallpox	...	...	...	...	...	...	...	...	...	1
Scarlet Fever...	...	...	...	...	...	...	...	...	...	427
Diphtheria	...	...	...	...	...	...	...	...	...	310
Measles and German Measles	...	...	...	...	...	...	...	...	...	3
Diphtheria Carriers	...	...	...	...	...	...	...	...	...	12
Cerebro Spinal Fever	...	...	...	...	...	...	...	...	...	1
Laryngitis	...	...	...	...	...	...	...	...	...	1
Observation	...	...	...	...	...	...	...	...	...	13
Cases requiring Isolation Hospital Treatment for which no room could be found or whose isolation was delayed										31
<i>Cases Removed to Borough Sanatorium :—</i>										
Pulmonary Tuberculosis	...	...	...	...	...	...	...	...	...	162
Non-pulmonary Tuberculosis	...	...	...	...	...	...	...	...	...	5
<i>Cases Isolated. Derbyshire Royal Infirmary :—</i>										
Pneumonia	...	...	...	...	...	...	...	...	...	52
Enteric Fever	...	...	...	...	...	...	...	...	...	5
Puerperal Fever	...	...	...	...	...	...	...	...	...	3
Puerperal Pyrexia	...	...	...	...	...	...	...	...	...	3
Measles	...	...	...	...	...	...	...	...	...	3
Ophthalmia Neonatorum	...	...	...	...	...	...	...	...	...	2
Acute Poliomyelitis	...	...	...	...	...	...	...	...	...	1
Erysipelas	...	...	...	...	...	...	...	...	...	1
Chicken Pox	...	...	...	...	...	...	...	...	...	1
Pulmonary Tuberculosis (Derby Cases)	...	...	...	...	...	...	...	...	...	9
Non-pulmonary Tuberculosis (Derby Cases)	...	...	...	...	...	...	...	...	...	45
<i>Cases Isolated. City Hospital.</i>										
Measles	...	...	...	...	...	...	...	...	...	98
Pneumonia	...	...	...	...	...	...	...	...	...	62
Chicken Pox	...	...	...	...	...	...	...	...	...	49
Erysipelas	...	...	...	...	...	...	...	...	...	19
Puerperal Pyrexia	...	...	...	...	...	...	...	...	...	10
Puerperal Fever	...	...	...	...	...	...	...	...	...	9
Enteric Fever	...	...	...	...	...	...	...	...	...	2
Scarlet Fever	...	...	...	...	...	...	...	...	...	2
Ophthalmia Neonatorum	...	...	...	...	...	...	...	...	...	2
Whooping Cough	...	...	...	...	...	...	...	...	...	2
Diphtheria	...	...	...	...	...	...	...	...	...	1
Diphtheria "Carrier"	...	...	...	...	...	...	...	...	...	1
Encephalitis Lethargica	...	...	...	...	...	...	...	...	...	1
Pulmonary Tuberculosis	...	...	...	...	...	...	...	...	...	70
Non-pulmonary Tuberculosis	...	...	...	...	...	...	...	...	...	82
<i>Cases Isolated. Children's Hospital :—</i>										
Pneumonia	...	...	...	...	...	...	...	...	...	19
Measles	...	...	...	...	...	...	...	...	...	6
Erysipelas	...	...	...	...	...	...	...	...	...	1
Chicken Pox	...	...	...	...	...	...	...	...	...	1
Non-pulmonary Tuberculosis	...	...	...	...	...	...	...	...	...	19
<i>Cases Isolated. Mental Hospital :—</i>										
Scarlet Fever	...	...	...	...	...	...	...	...	...	2
Pneumonia	...	...	...	...	...	...	...	...	...	1
<i>Cases Isolated. Nightingale Nursing Home :—</i>										
Puerperal Pyrexia	...	...	...	...	...	...	...	...	...	8
<i>Cases Isolated. Home of Rest :—</i>										
Pulmonary Tuberculosis	...	...	...	...	...	...	...	...	...	1
<i>Cases Isolated. Queen Mary Nursing Home :—</i>										
Puerperal Pyrexia	...	...	...	...	...	...	...	...	...	1
<i>Cases Isolated. Women's Hospital :—</i>										
Puerperal Pyrexia	...	...	...	...	...	...	...	...	...	2

†Removed to the Derby and Burton-on-Trent Joint Smallpox Hospital at Blakeley.

SMALLPOX.

Only one case of Smallpox was notified during the year—an unvaccinated male, aged 20 years. The patient came to Derby for the Easter holiday from Smeeton Westaby, near Leicester, on 16th April, and was notified as suffering from the disease on the 17th April. The rash was stated to have appeared on the 14th, and the man was at work on April 16th. All the household contacts were vaccinated, and there was no spread of the disease. The patient was discharged from Hospital on the 10th May.

BLAKELEY HOSPITAL.—The Smallpox Hospital at Blakeley was closed on February 15th, and re-opened on the 18th April. It was again closed on the 24th May.

Vaccinations under Public Health (Smallpox) Regulations, 1917.

(a) Primary Vaccinations	...	...	14
(b) Re-Vaccinations	...	...	2
			—
			16
			—

Vaccination of Infants during 1930.

Total number of births	...	...	...	2,664
Children under 12 months died				
un-vaccinated	...	...	...	208
Insusceptible	...	...	...	5
Postponed	...	...	...	32
Successful	...	...	...	191
Conscientious objection certificates	...	...	...	2,023

DIPHTHERIA.

This specific infectious disease of the throat and upper respiratory tract, in former days known as membranous croup, is due to the growth of the Klebs-Loeffler bacillus and the absorption of toxins from the surfaces on which it is implanted, and is almost invariably transmitted from person to person by “droplet infection.” It can be acquired by sucking pens and pencils which have been similarly used by another carrier of the germ, but the idea that the disease is in any way associated with drains or sewer gas is an exploded fallacy.

VACCINATION RETURN, 1929.

Registration Sub-Districts comprised in the Vaccination Officer's District.	Number of Births returned in the "Birth List Sheets" as registered from 1st January to 31st December, 1929.	Number of these births duly entered by 31st January, 1931, in column I., II., IV. and V. of the " Vaccination Register " (Birth List Sheets), viz. :—					Number of these Births which on 31st January, 1931, remained unentered in the " Vaccination Register " on account (as shown by " Report Book ") of			Number of these Births remaining on 31st Jan., 1931, neither duly entered in the " Vaccination Register " (columns 3, 4, 5, 6 & 7 of this return) nor temporarily accounted for in the " Report Book," (columns 8, 9, and 10 of this Return).	Total number of Certificates of Successful Primary Vaccination of Children under 14 received during the Calendar year 1930.	Number of Statutory Declarations of Conscientious Objection actually received by the Vaccination Officer irrespective of the dates of birth of the children to which they relate, during the Calendar Year 1930.
		Col. I.	Col. II.		Col. IV.	Col. V.	Postponement by Medical Certificate.	Removal to Districts the Vaccination Officers of which have been duly apprised.	Removal to places unknown, or which cannot be reached and cases not having been found.			
		Successfully Vaccinated.	Insusceptible of Vaccination.	Had Smallpox.	Number in respect of whom Statutory Declarations of Conscientious Objection have been received.	Died Unvaccinated.						
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. South East ...	1640	118	2	—	1183	89	13	41	58	136	These figures are to be obtained from columns 2 & 6 of the Summary (Form N.)	
2. North West ...	1046	86	4	—	731	81	11	19	47	67	112	1283
											79	740
TOTAL ...	2686	204	6	—	1914	170	24	60	105	203	191	2023

NOTE.— (a) The total of the figures in columns 3 to 11 should agree with the figure in column 2. Any cases of children successfully vaccinated after the declaration of conscientious objection had been made should be included in column 6 above, and not in column 3. The number of such cases should be inserted here :—(1)

(b) The figures in columns 2 to 11 should not include re-registered births or cases of children born in other districts.

The total in this column should be the number of Certificates of successful primary vaccination of children under 14, actually received during the year, including any relating to births registered in previous years. The total thus given should include the Certificates of successful primary vaccination, of which copies have been sent to Vaccination Officers of other Districts. The total number of Certificates for the year 1930 sent to other Vaccination Officers should be stated here :—(2)

Diphtheria exists in mild epidemic form in urban communities, chiefly amongst the younger generations who attend Public Elementary Schools, and it is certain that there are an unknown but large and variable number of temporary carriers, which number probably increases during epidemic periods. Younger children, being more susceptible, acquire the disease after intimate exposure to such carriers, and the disease is likely to be more serious at early ages. A Table is given on page 182 which shows that the greatest number of cases occur in the age group 5-15, but that the heaviest mortality falls on the 0-5 age group.

Prior to the discovery of Diphtheria antitoxin and its regular use in treatment in sufficient doses, the fatality rate was much greater, but we still have to lament the fact that many children die, whose lives might have been saved. Every year the Medical Superintendent of the Isolation Hospital receives young children after a period of illness at home of four or five days, who die within a few hours of admission. In dealing with such an insidious and fatal disease DELAY IS DANGEROUS. The fault often lies with the parents, who may not have looked inside the throat (many cases do not complain of their throats, and one may be told that it only had 'swollen glands'), there has been delay in calling for medical aid, and further delay in the administration of antitoxin. This remedy can only combat the disease if used as early as possible, in such a way that it can be absorbed to neutralise toxins not yet fixed in the tissues, even if given in heroic doses it cannot do much if the child has been seriously ill for five or six days.

The prompt administration of sufficient antitoxin by the doctor called to a case should be determined by the clinical symptoms and never delayed 24 hours or more to await the Laboratory report on a throat swab. It cannot be too widely known that all antitoxin is furnished gratuitously by the Health Department.

History of Diphtheria in Derby.

Diphtheria and membranous croup were made notifiable in 1890; the disease was not prevalent, only the more serious cases were notified, and severe cases were treated in the Royal Infirmary. An increase in prevalence was noted in 1903, after which date it became epidemic, outbreaks being associated with school areas of

the town, and the disease was supposed to be kept in being by mild and unsuspected cases.

Antitoxin as a remedy became possible after 1895, and was furnished free, on request, to medical men practising in the town, for necessitous patients in 1905, and, without restriction in 1909.

Cases were first admitted to the Borough Isolation Hospital in 1907. Bacteriological control of suspected cases and contacts was instituted in 1909, all positive results being accepted as cases. Exclusion of "close contacts" from school, until their throats had been examined and reported negative was made the rule at this time and more regular supervision of schools was instituted.

"Carriers" were no longer classified as cases after 1923.

The following Table illustrates the movement of Diphtheria during the last four decades.

PERIOD.	1891-1900	1901-10	1911-20	1921-30
Average case rate per 1,000 population ...	.56	2.77	2.45	1.95
Fatality rate per 1,000 cases ...	173	84	49	56

Diphtheria in Derby 1926-30.

	1926	1927	1928	1929	1930
Cases notified. Males ...	170	131	166	141	190
„ Females ...	162	156	232	176	218
„ Total ...	332	287	398	317	408
Deaths ...	19	13	16	16	22
Fatality rate per 1,000 cases	57	45	40	50	54
Death rate per 100,000 population ...	14	10	12	11	16

Diphtheria was more prevalent within the Borough in 1930, 408 cases being notified, the highest figure since 1909. Bacterio

logical examination assisted in the recognition of 227 (56%) of the notified cases.

Diphtheria is often noted to become more prevalent after an outbreak of Scarlet Fever, and to increase in the autumn. After a period of quiescence a rather widespread diffusion of "carriers" was noticed in the town in September, and was followed by an epidemic which reached its height in mid-November.

Included in the 408 cases are (a) 181 cases notified by medical men in the town on clinical symptoms only; (b) 188 cases notified on the results of bacteriological examinations of throat swabs in suspicious cases of throat illness and of cases with nasal discharge; and (c) 39 cases discovered in Schools or in the homes of the people many being the "close contacts" of notified cases.

Whilst the majority of cases were of moderate severity, a larger proportion of severe and toxic cases were admitted to the Isolation Hospital. The number of deaths (22) was the highest recorded since 1924, when a more virulent type of infection was also noted, and, taking into consideration the modern practice of using larger amounts of antitoxic serum, and its intravenous administration in the most severe cases, there can be little doubt that a more virulent type of infection prevails, and but for the efficiency of treatment in Hospital, the fatality rate would have been greater.

Fatal cases. 12 deaths occurred in males, 10 in females.

Nineteen of the fatal cases were admitted to the Borough Infectious Diseases Hospital, three were treated at home.

One case, admitted to the Isolation Hospital, died, but death was certified as Myocardial Degeneration, and classified to Heart Diseases. Two fatal cases (non-residents) were treated in the Derbyshire Royal Infirmary.

Antitoxin in relation to Fatal Cases. In five cases antitoxin had been administered; in seventeen cases there was no record of its administration, but all cases admitted to the Isolation Hospital received full doses.

Infected Households. The 408 cases occurred in 333 households, including 23 in six Institutions. In 24 households there were 2

cases each, in 10 instances 3 cases, in three instances 4 cases, and in one household 6 cases occurred. This last was a forcible illustration of overcrowding ; a family with 6 children, eldest aged 10, occupying a Corporation house, in which also they had taken in two families as lodgers, a married couple with an infant, and a widow with two young children, one of which was incubating measles when she moved in. The resulting measles outbreak affected four, during which a case of diphtheria was notified, to be followed later by the other five, all of whom had been sleeping in the same two beds. All recovered. Such a group of circumstances is exceptional, but illustrates the potential value of the prophylactic administration of antitoxin, if the doctor in attendance had thought it to be his duty.

Age of Fatal Cases.—When we refer to deaths from disease, general statistics, based on the total population, may be very misleading, and mask the truth they are intended to convey. From the preceding table (page 169) we find that Derby has a fatality rate from Diphtheria of 50 per 1,000 cases (in round numbers), *i.e.*, **one case in twenty dies** ; the case mortality was at one time very much higher, but in 1920 it was slightly less than 3 per cent.

For a truer conception of the facts, attention is drawn to the special table (page 182), in which the age incidence and fatality rates have been calculated as a mean annual rate for the past decade, for the selected population living : (1) those under 5 years of age ; (2) school children, ages 5 to 15 : (3) all over 15. Two facts stand out—the main incidence of Diphtheria falls upon the scholar, 5·8 per 1,000 of this considerable section of the population, but the heavy death rate falls upon the young child, *viz.*, ·63 per 1,000 of those living **under 5**, with case fatality per 1,000 cases of 126 ; in other words, **one case in eight dies**.

Carriers.—The bacteriological examination of swabs from the throat and nose provides the Health Department and the family doctor with valuable information as to those individuals who may be “ carriers,” but who show no clinical signs of the disease.

This carrier state is often quite temporary, a second swab at a later date showing that the organism has been cleared away by

natural processes. In others, especially those harbouring diphtheria germs in the nose, the condition may last for weeks, the individual in question appearing well save for some nasal discharge, and, if allowed to mix with other children in Day or Sunday School, may be the innocent cause of passing on infection to susceptible companions.

In the case of a Public Institution like the City Hospital, should a case of diphtheria occur, routine swabbing of staff and patients in the same Ward may show that a few are carriers. During the year, ten persons were removed to the Isolation Hospital under these circumstances, for observation, eight of whom were found to have temporary contaminations, the succeeding swab at the Isolation Hospital being negative. (One of these died of her original malady.) The other two (children) remained under treatment as carriers. Nine carriers were notified by private practitioners, on swab results, and treated at home.

The principal work accomplished in the detection and control of carriers devolves on the Health Department, in association with the routine swabbing of families after a notified case, the visits paid to schools following such a case, and in children referred from the School Clinics in whom a swab has been reported to be positive, or in cases discovered after reported absence from school of suspicious cases of illness by Head Teachers.

During 1930, 72 carriers were detected and followed up by the Department. A few were temporary throat contaminations, others remained carriers for a period in consequence of some throat abnormality, whilst the bulk were nasal carriers, detected in schools, excluded, visited, and kept under treatment and observation until two successive negative swabs were obtained. Whilst it is impossible to dogmatise on the question of virulence in all these cases, most of them were indirectly associated in time and place with clinical cases, some were known to have directly infected others at home, others were more than suspect, as their exclusion from the school class was followed by the cessation of cases. Some, of long duration, were tested for virulence. No data can be given to record the length of time a person may be a carrier: suitable treatment and an open-air life certainly reduces the period. Carriers have

been under observation for as long as ten weeks. Nor do we know whether some of them relapse and become carriers again ; but one girl who had diphtheria in 1929 was found to be a carrier in 1930, when her brother, an adult, was removed to hospital with the same disease, and she continued in this state for a further six weeks. She had chronically enlarged tonsils.

Schools and Diphtheria.

There need be no surprise that Diphtheria spreads in a school, because young children are specially susceptible. Modern research has devised a method whereby skin tests can be used to indicate the liability to ' catch ' this disease, and it has been proved that the period of greatest susceptibility occurs between the age of one and six or seven years, after which there is a falling off. Children living in the country may remain highly susceptible for a longer period than those in towns, and children living on the fringes of our great towns continue to be susceptible longer than the children in the more crowded areas. Where a city can be divided into zones, the children in new areas not mixing with those in the older parts, the phenomenon may be noticed that more cases of Diphtheria occur in the newer areas, and such cases as are notified in the poorer congested areas generally occur at younger ages. This can be illustrated by outbreaks of diphtheria in Derby Schools. During the last five years, 972 cases of diphtheria in school children have been reported and followed up ; in many of the centrally-situated schools the disease has not spread, but in those schools containing children of suitable age, coming from better homes, a local epidemic may follow. Such epidemics have occurred during the past year at Kedleston Road, Nightingale Road, Reginald Street and St. James' Church (Madeley Street) Schools, in previous years at Ashbourne Road, Firs Estate, etc., whereas very few cases occur, and those sporadically, at Wright Street, Trinity, St. Dunstan's, Traffic Street, Nuns Street Nurseries and Schools, etc., etc.

These natural reactions of children living in different environments prove by costly experience—costly to the child's health and education and costly to the ratepayers—certain facts of epidemiology which have been recently elucidated by the use of the Schick test, and for which a satisfactory explanation can be deduced. The

facts are (1) all children of pre-school age may get diphtheria if exposed to it; (2) most children in Primary Departments are susceptible, unless they have passed through an epidemic; (3) children who live under more protected conditions retain their susceptibility to a greater age. As a corollary, it follows that the improved spacing out of families with the development of Housing Estates will not reduce the susceptibility of individual children living under such improved conditions if they should happen to become exposed to infection.

Preventive Measures.—The most effective method of preventing mortality from diphtheria in the past has been the removal of such cases to hospital; the great reduction in the fatality from the disease, which has fallen from 17·3 per cent. of the notified cases in the decade 1891-1900 to 5·6 per cent. in the last decade, is due to the administration of anti-toxin promptly and in adequate amount; 76 per cent. of the notified cases were removed to hospital for treatment during 1930.

Recently, by the Schick test, as outlined above, it has become possible to distinguish between those who are and those who are not liable to attack; those susceptible can be immunised (protected) in a high proportion of cases by three very small subcutaneous injections of toxoid-antitoxin, which is prepared under the strictest scientific control.

(The latest work has brought to light a further modification which, though a little more expensive, is stated with confidence to produce no reaction, have better effects, and may lead to the immunisation becoming established with two doses only.)

In the case of children under eight years of age, the proportion of susceptibles is so high that no preliminary test is required, and the immunising injections can be given at once.

This method was first applied to Nursing Staffs in Fever Hospitals, exposed as they are to severe risks, and it is now established practice throughout the country to test and immunise these nurses, with the gratifying result of almost complete absence of cases of diphtheria amongst such nurses. These experiences suggest that the Nursing Staffs of Children's Hospitals should be similarly protected.

The method was then tried out in many Orphanages and other residential institutions for children, where, without this preventive method, an outbreak of diphtheria might persist almost indefinitely if susceptible persons were being frequently admitted. This results in a considerable financial saving, as **the cost of immunising 150 children is usually less than that of treating a single case of diphtheria.**

A much wider field, however, is open for this method of prevention. As already pointed out, Diphtheria in contradistinction to Scarlet Fever, is not being reduced in severity as the years pass, rather the contrary, and the risk of dying from this disease is much greater during the first few years of life than in subsequent years. First popularised in New York City and State, and other large centres in U.S.A., tentatively adopted in a few cities in Great Britain, many Local Authorities have now taken up the method, established clinics and carried out extensive educational propaganda to induce parents to have their children protected. Some of the Metropolitan Boroughs work through the Child Welfare Centres: other large cities have offered immunisation to school children, and already thousands have been treated in Cardiff, Bristol, &c., the response having been so satisfactory that there is no further question of doubt in the minds of parents, as to their being any possible harm or danger. Following the course, some Authorities give Certificates of Immunisation. Cinematograph Films are now available, and are being widely used for instruction during Health Weeks.

Immunisation in Derby. The Nursing Staff of the Borough Isolation Hospital continue to receive protection as in preceding years.

Several parents decided to have their infants immunised, as the sequel to a public lecture on "Modern Methods of Controlling Infectious Disease."

In 1930, 3 young children received a full course of injections, and are now due for their Schick control.

There is reason to hope that, as these methods become more widely known, more ready response will be forthcoming, and that numerous Toddlers and School Entrants may get the protection they need; nor should one forget that Elementary School Teachers

and Pupil Teachers are also exposed to risk, and need protection likewise. There is no reason why Derby should be behind the times, for it can be stated with confidence that most children, after their course of injections, are immune from attacks of diphtheria for a number of years. An occasional child, however, may lose the immunity rather rapidly as a result of some peculiarity of the blood or body, but such cases are rare.

Antitoxin.—Antitoxin was supplied gratuitously, as in previous years, to the medical men practising in Derby. During 1930, the following amounts were supplied :—

23 phials containing 2,000 units each.			
118	„	„	4,000 „
302	„	„	8,000 „

SCARLET FEVER.

Scarlet Fever has shown a steady decline in mortality since the seventies of last century, and at the present time is not very fatal, but there has been no similar decline in the number of cases, the disease remaining practically endemic.

Even with our improved public health machinery, a very small percentage of cases can be satisfactorily traced to preceding cases, which explains the apparent failure of isolation methods to arrest the spread. The herd immunity of the population seems to vary, heavy epidemics occur in sequences of 5 to 7 years, followed by a period of moderate quiescence.

We have no means of ascertaining the presence of outbreaks of tonsillitis amongst the population as a whole, but it would seem likely that there is an increase in cases of sore throat, before, or at the time of an epidemic of true scarlet fever. Sir George Newman, in his Annual Report to the Minister of Health for 1929, states “ The work of the last few years on the nature of the causal organism has tended to strengthen the opinion that scarlet fever, or what is known as scarlet fever, may be caused by several different strains of hæmolytic streptococci. It is possible to distinguish these strains with some degree of accuracy. The clinical variations of different epidemics are apparently accounted for by a difference in

the strain of the organism responsible. Many cases of sore throat without a rash have been found to harbour hæmolytic streptococci serologically indistinguishable from the strains causing scarlet fever."

Scarlet fever usually follows summers with a low rainfall. The summers of the years 1921 and 1929 were both exceptionally dry, and were followed by widespread epidemics, not only in Derby but in other parts of the country. No considerable outbreak occurred between these years, but a very sharp outbreak commenced in the autumn of 1929, the number of notifications increasing rapidly from the end of August to November, the peak (with average weekly notifications of 70 cases), after which there was a slow decline to the following June. This outbreak caused a great strain on the Isolation Hospital accommodation, and at one time a large percentage of cases were being treated at home. Prior to the epidemic proper, a pre-epidemic condition of the town was noticed, during which numbers of children were seen who had little or no sore throat, no special changes of the tongue, a faint, fleeting, atypical rash, and a long incubation period from case to case, with here and there, cases of true scarlet fever. A similar condition occurred in a closed community at a later date, namely, the Railway Servants' Orphanage (see page 181) which was followed in due course by a typical outbreak.

At the same time certain other towns were facing serious epidemics especially Barnsley, Chester, Sheffield, Leeds and Liverpool, with correspondingly high attack rates.

The Derby attack rate for the year 1929 was 7.31 per 1,000 population. This epidemic, the greatest on record for Derby, continued for a whole year, from August, 1929 to August, 1930.

During this period 1,553 cases of scarlet fever with 12 deaths, were recorded, giving an attack rate of 11.5 per 1,000 and a mortality rate of 8.54 per 100,000 of the population. The fatality rate was low, 7.7 deaths to 1,000 notified cases and in this reduction of fatality the more extended use of scarlatinal antitoxic serum has played a part. The importance of scarlet fever, however, arises not only from the deaths but from the cases of rheumatism, heart, kidney and middle ear disease which it occasions. The value of

antitoxin in preventing complications is dealt with in Dr. Taylor's Report on treatment in the Borough Isolation Hospital.

The special Table on page 182 shows that the disease is much more prevalent amongst children of school age, but that those of tender years are much more likely to die.

The epidemic was so widespread that practically every Day School was involved, but, as referred to under Diphtheria, there is a tendency for the children of certain schools to manifest a greater susceptibility and for the epidemic to linger ; in the case of Scarlet Fever, this phenomenon is complicated by risks of cross infection in the home from adolescents and adults, a fact which has no significance in the spread of Diphtheria.

The proportion of secondary to primary cases in a house shows no constant variation between different parts of the town, but varies considerably between different years. It rises in epidemic years.

Scarlet Fever during the period 1926-30.

<i>Notified Cases.</i>					
<i>Year.</i>		<i>Males.</i>	<i>Females.</i>	<i>Total.</i>	<i>Deaths.</i>
1926 ...	...	76	98	174	4
1927 ...	...	113	141	254	2
1928 ...	...	112	170	282	1
1929 ...	...	453	606	1,059	2
1930 ...	..	358	462	820	10

There is a distinct preponderance of cases in the female sex, which has occurred over a long series of years, and may be due, in part, to greater numbers exposed to risk, and the more intimate character of contacts between girls than boys ; it is not argued that the female is more susceptible.

During 1930, of the cases notified, 47·4 per cent. were notified in the first quarter of the year : there was some increase in the severity of the disease, more toxic cases occurring.

MORTALITY.—There was a much heavier mortality in 1930, ten cases being fatal, a case mortality of 12·2 per thousand. This death rate is exceptional, five of the deaths being in adults. The ages of the fatal cases were—males, 6, 6, 17 and 31 years ; females,

8, 11, 21, 26, 31 and 34 years. Three of the fatal cases had been notified in 1929, and their deaths were due to sequelæ of scarlet fever. Four of the fatal cases died in the Borough Isolation Hospital, two in the Derbyshire Royal Infirmary, and one in the Children's Hospital.

Secondary Cases.—Following cases notified in 1929, subsequent cases occurred in 18 houses. In 1930, 683 households and five institutions were affected. In 60 instances two cases occurred in a house, in 13 instances three cases, in two instances four cases, and in one house five cases occurred.

Return Cases.—When a convalescent is deemed ready for discharge from the Isolation Hospital, a printed notice is sent to the parent or guardians, advising the adoption of certain precautions in order to minimise any risk of spread, should the patient retain organisms in the throat, etc., which might affect others. Cases occurring within the outside margin of one month of the discharge from hospital to the same house are regarded as "return cases."

A table is given showing the number of cases discharged from hospital and the percentage of cases arising from or associated with them at home, for the past five years. As already stated, during an epidemic the number of return cases increases: it must, however, be borne in mind that the number of unrecognised carriers also increases during the same period, and that some of the "return cases" may be coincidences occurring in a similar infected environment.

<i>Year.</i>	<i>Notified cases.</i>	<i>Cases discharged from Hospital.</i>	<i>"Return cases."</i>	<i>Percentage of returns to discharges.</i>
1926 ...	174	88	1	1.1
1927 ...	254	164	4	2.4
1928 ...	282	136	2	1.5
1929 ...	1059	413	18	4.3
1930 ...	820	518	19	3.6

In two houses, two return cases occurred during 1930.

The average length of stay in hospital of those associated with return cases did not differ from the general run of discharges.

Our present knowledge is incomplete as to how long a child may continue to be a "carrier," when the clinical condition is quite satisfactory, but there is no doubt that some families are more susceptible, should a "carrier" return to the home. In one instance, two children returned home together, they themselves being "return cases" from a case which occurred in the home during 1929; within nine days the baby contracted scarlet fever.

The recent discovery of the casual agent of scarlet fever, the production of a corresponding antitoxin, and the further discovery that the toxin can be safely used for the production of immunity should be mentioned at this stage. Immunisation by the injection of toxin has a potential value under such conditions as reported above, as a means of preparing the other susceptible members of a family against the return of a case from hospital, and so of preventing the possibility of "return cases."

Dick Testing and Immunisation against Scarlet Fever.

The principles of the methods of preventing Scarlet Fever are identical with those described as available against Diphtheria (see page 000), except that no antitoxin is given with the toxin, which is used unmodified. The immunity conferred may not be as lasting as that against Diphtheria, but, for practical purposes, in the safeguarding of Nursing Staffs in Fever Hospitals this method has been eminently satisfactory, and is coming into general use. The nurses and/or other staffs of the Borough Isolation Hospital continue to receive such protection, when necessary. Some Local Authorities have employed the test and following immunisation with satisfactory results in the control of localised epidemics in schools or institutions, whilst Aberdeen offers voluntary immunisation to school children by combining the toxoid-antitoxin of Diphtheria and the toxin of Scarlet Fever in one series of injections.

Railway Servants' Orphanage.

Reference has been made under Diphtheria to the value of immunisation in large institutions, where new members of the community are introduced from time to time; the history of recent outbreaks of disease in the above Institution gives additional sup-

port to the general thesis. I am indebted to Dr. Schofield for information as to the methods he employs, and their success.

EPIDEMIOLOGICAL HISTORY.—The Orphanage houses over 200 children, boys and girls, who attend two of the Public Elementary Schools, and a few seniors attend Secondary Schools, where they have to face the risk of exposure to prevalent infections.

Early in 1929, associated with outbreaks of Diphtheria in their schools, eight cases developed amongst the girls in the Orphanage ; an isolated case occurred in December, 1929, followed by six cases early in 1930, during which period four carriers were also discovered. All cases were removed to the Isolation Hospital, the last admission being on April 1st, 1930.

The insidious onset of a widespread epidemic of Scarlet Fever, in September, 1929, which spread through the whole Borough, did not spare the Orphanage, where, during September and October, an epidemic of sore throats occurred, in both sexes, filling the sick bay and demanding the employment of extra nursing staff. These cases were not typical of Scarlet Fever ; some few had a very transient roseola, others no skin changes. The Borough Isolation Hospital at the time was full and coping with difficulty to house the numbers requiring isolation from the whole town, so that no children could be removed for observation, and only typical cases received.

At this time the Assistant Medical Officer was called in consultation by Dr. Schofield, when methods for dealing with the outbreak were discussed, and with him, an opportunity was given during a second visit for conversation with the Secretary of the Orphanage as to the value and importance of applying newer knowledge in such an institution and obtaining sanction for general immunisation. In November typical cases of Scarlet Fever began to increase, assuming an epidemic character, at the same time cases of German Measles, also epidemic in the town. The Orphanage was now provided with extra staff and all cases were treated in their Sanatorium until the epidemic ceased at the end of January, 1930. In all, 51 cases were notified. The last, an isolated case, was reported at the end of February. Meanwhile, on the advice of their Medical Officer, the Governors of the Orphanage consented

to the use of immunisation methods as a means of preventing similar outbreaks, so costly and so detrimental to the education of the children. From April, 1930, all present and all entrants have been given the combined toxins to develop immunity against both diphtheria and scarlet fever, it being considered unnecessary to do the skin tests. No case of either disease has been reported since this procedure was commenced.

Statistics of Scarlet Fever and Diphtheria determined for age-groups for comparison with other towns.

The Chief Medical Officer of the Ministry of Health, in his Annual Report for 1929 (pp. 171-5) devotes a section to certain comparisons in respect of the incidence and deaths in age groups* for both Scarlet Fever and Diphtheria in four great cities over a period of years (1919-28), and suggests that similarly grouped statistical material might be brought into the Reports of other large municipalities. The following Tables are based on the Derby returns for the past decade (1921-30).

CASE FATALITY per 1,000 CASES.

	Age Group*.	Scarlet Fever.	Diphtheria.
Mean for 1921-30	0-5	25	126
	5-15	4	51
	15+	§10.3	5

§ This excess rate is due to a small sample, 7 deaths having occurred during the present epidemic.

Age Incidence of Case-Rate per 1,000 of Population.

	Age Group.	Scarlet Fever.	Diphtheria.
Mean for 1921-30.	0-5	6.3	4.97
	5-15	10.85	5.8
	15+	1.09	.60

(* To obtain the population at the requisite age periods, the estimated population (at all ages) given by the Registrar-General was distributed in accordance with the age constitution of the population (local) at the 1921 census. This probably somewhat overstates the numbers living at ages 0-5.)

Mortality Rates per 1,000 Population.

	Age Group.	Scarlet Fever.	Diphtheria.
Mean for 1921-30.	0—5	·157	·63
	5—15	·042	·29
	15+	·011	·003

The figures for Diphtheria are not exactly comparable with those of other large towns owing to varying methods in recording those found to be carriers. In the case of Derby, since 1923, carriers have not been included, prior to which date a bacteriologically positive result was taken as a case. In consequence the Case Fatality Rates should be a little higher, and the Case Rate to Population a little lower.

ENTERIC FEVER.

Total cases notified	...	...	...	10
Deaths	...	...	...	0

Five of the notified cases were treated in the Derbyshire Royal Infirmary, two in the City Hospital, and three at home.

Five of the cases were notified as Para-typhoid B.

Sex.—Three of the cases were males and seven females.

Age Distribution.—Males.—7, 8, 22 years.

Females—2, 26, 27, 28, 33, 35, 39 years.

Households.—The cases of Enteric Fever affected seven households and one institution. Two cases occurred in one household.

Sanitary Conveniences.—The infected houses (7) were each provided with a W.C.

In correspondence with other parts of the country, Typhoid or Enteric Fever is becoming rare and sporadic. During the past five years (1926-30), 28 cases have been notified in the Borough,

of whom 3 died. A comparison with the quinquennium 1906-10, shows the enormous advance which has been made by general public health measures against this, once formidable, epidemic disease. During this period 224 cases were notified, with 42 deaths.

True typhoid is rarer still, most outbreaks having a preponderance of infections with Para-typhoid B, which is usually much less fatal. The disease may be acquired from a "carrier", who in turn may become the focus for the contamination of milk and dairy products, cooked foods, ice cream, or it may be due to eating sewage-contaminated foods of which watercress, shellfish, and flat fish from in-shore fishing grounds, are examples. Suspicion occasionally falls upon imported bruised tomatoes or strawberries.

The occurrence of 5 cases within a few days at the beginning of July, all in adult females, led to a careful enquiry, during which it was found that all were infected with Para-B (in one case mixed with Typhoid) but no source of common contagion could be ascertained, and none of the patients had been away from Derby for a meal.

All had eaten tomatoes and strawberries, one had partaken of watercress; one had eaten crayfish, three eat fried fish regularly, whilst two were fond of ice-cream. They obtained their milk from different supplies, some touching nothing but pasteurised milk. A week later two children of one family were notified, both of whom had partaken of ice-cream within the required period for the development of infection; none of the sources of supply of ice-cream were common. No further cases occurred in association with this group.

Two cases were admitted to the City Hospital; one, a boy aged 8 years, who lived in Wolverhampton, where he was supposed to have had gastritis, was placed on the canal boat of his parents for convalescence, and on arrival in Derby after a 5 days' voyage, was transferred to Hospital. No source of infection was traced in Wolverhampton. The canal boat was disinfected, retained under observation, and no further case occurred. The other case was a casual, admitted from the road; no information was obtainable as to his antecedent movements.

Widal, etc. Examinations.

Thirty-two examinations of eleven blood specimens were made by Widal's Reaction, with the following results :—

Positive Enterica Group	...	...	...	1
Positive B Typhosus	...	...	...	1
Positive B Ent. Gartner	...	...	...	1
Positive B Para-typhosus B	...	...	...	5
Negative	...	...	...	24

Seventeen examinations of specimens of Fæces gave the following results :—

Positive B Para-typhosus B	...	...	3
Negative	...	...	13
No result	...	...	1

PUERPERAL FEVER AND PUERPERAL PYREXIA.

The Public Health (Notification of Puerperal Fever and Puerperal Pyrexia) Regulations, 1926, came into force on 1st October, 1926, and made it compulsory for medical practitioners to notify puerperal pyrexia, in addition to puerperal fever, already a notifiable condition under the Infectious Diseases (Notification) Act, 1889.

The Regulations define Puerperal Pyrexia as “ any febrile condition (other than a condition which is required to be notified as puerperal fever under the Infectious Diseases (Notification) Acts, occurring in a woman within 21 days after childbirth or miscarriage in which a temperature of 100·4 F. (38 centigrade), or more, has been sustained during a period of 24 hours, or has recurred during that period.” Medical practitioners are thus under obligation to notify to the Medical Officer of Health all cases of pyrexia during the puerperium, irrespective of the cause to which the fever may be attributed.

Confusion has arisen in regard to the definition of the term puerperal fever, puerperal pyrexia and puerperal morbidity. What ever the first of these may have originally signified, it has now come to be quite clearly regarded as a general septic infection, a toxæmia, the invasion of the blood stream by a pathogenic organism being by way of the genital canal. It has come, that is to say, to imply quite definitely a diagnosis. The term Puerperal Pyrexia, on the other hand, indicates a feature, a symptom, and no more. It

would include a rise of temperature (of a certain elevation and persistence) during the puerperal period, from whatever cause. Indeed, it might be, and frequently is, from a cause quite unassociated or only accidentally associated in time with the recent confinement. Thus, though it may include conditions much less serious than puerperal fever, it is yet a term of wider extension. Puerperal morbidity, on the other hand, is a term of wider extension still, and includes conditions such as hæmorrhage and eclampsia, which are not associated with pyrexia. The exact significance of these terms has been set forth with some fullness because **there is evident a tendency to regard puerperal pyrexia as differing from puerperal fever merely in degree, the former being a mild form of the latter,** and to regard puerperal morbidity as definitely associated with elevation of temperature, thus giving to morbidity a new and undesirable meaning.

The practical value of notification depends on the steps taken, when necessary, to provide facilities for assistance in diagnosis and for the treatment of patients who are not able to secure adequate treatment for themselves. Under the Maternity and Child Welfare Act, 1918, the Corporation are empowered to make provision for consultation with an obstetric specialist, for skilled nursing, or for institutional treatment in the case of any woman suffering from Puerperal Pyrexia. Arrangements for skilled nursing of cases of Puerperal Pyrexia were made in 1926 with the Royal Derby and Derbyshire Nursing Association, and in July, 1928, Dr. C. D. Lochrane and Dr. N. L. Edwards were appointed as consultants.

The following table gives the notifications for the last quinquennium.

Puerperal Fever and Puerperal Pyrexia 1926-30.

				Derby Cases.		Non-Residents		Total.	
Year	Popu- lation (Births).	Derby Births Registered.		Puer- peral Fever.	Puer- peral Pyrexia	Puer- peral Fever.	Puer- peral Pyrexia	Puer- peral Fever.	Puer- peral Pyrexia
		Live.	Still						
1926	136,800	2,387	79	9	3*	—	1*	9	4*
1927	136,600	2,200	76	12	22	1	1	13	23
1928	139,100	2,391	78	18	51	3	9	21	60
1929	140,700	2,396	85	14	46	—	3	14	49
1930	140,700	2,378	88	11	32	3	4	14	36

* Notifiable from 1st October, 1926.

Further details are given in the section dealing with Maternal Mortality concerning routine enquiries, visitation of cases and special reports furnished to the Ministry of Health in case of death.

PUERPERAL FEVER.

Cases notified in 1930	14
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(One case was first notified as Puerperal Pyrexia and afterwards also as Puerperal Fever.)

A midwife was present at the parturition in seven cases ; in four instances a doctor was present, and three cases were attended by both doctor and midwife.

Nine of the cases were treated in the City Hospital, three in the Derbyshire Royal Infirmary, and two at home. Skilled nursing was provided (under the arrangements with the Nursing Association) for the home cases, both of whom recovered ; 64 visits were made by nurses.

PUERPERAL PYREXIA.

Cases notified in 1930	36
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Four of these were non-residents, who came into Derby Institutions for confinement. Eight cases occurred in the Nightingale Nursing Home, and one in the Queen Mary Nursing Home.

Ten cases were treated in the City Hospital, three in the Derbyshire Royal Infirmary and two in the Women's Hospital. The remainder (12) were all treated at home, in three instances skilled nursing being carried out by arrangements made with the Royal Derby and Derbyshire Nursing Association, 45 visits were made to these three cases, and all recovered.

In accordance with the Corporation's scheme, Consultants were called in in three cases of Puerperal Pyrexia. One of the patients was removed to the Women's Hospital and treatment of the other two was continued at home.

Four of the notified cases of Puerperal Pyrexia died ; the causes of death being certified as follows :—

- | | | |
|--|---|---|
| 1. Septic Peritonitis, Parturition,
Toxæmia of Pregnancy, Septic
mouth. | } | Deaths assigned to
Puerperal Sepsis. |
| 2. Puerperal Pyrexia, Acute Broncho-
pneumonia, Cervical Adenitis
complicating Pregnancy. | | |
| 3. Pulmonary Tuberculosis, recent Parturition. | | |
| 4. Paralytic Ileus, Septicæmia, Puerperal Fever, no p.m. (non-
resident), died in 1931—death assigned to Puerperal
Sepsis. | | |

PNEUMONIA.

The Public Health (Infectious Diseases) Regulations of 1927 require the notification of all cases of Acute Primary Pneumonia and Acute Influenzal Pneumonia, in order that the Health Department may take such steps as are necessary or desirable for preventing the spread of infection, and for removing conditions favourable to infection. The exercise of these powers may be most valuable during an epidemic of influenza, and even in some cases of pneumonia as certain types of this disease may be contagious within the limited range of the home.

The Regulations state that the Local Authority, with the consent of the Ministry, may provide medical assistance for any sufferer in need of such. Arrangements were made with the Royal Nursing Institution for the provision of trained nurses for cases in which efficient nursing could not be provided. This provision has been continued during the past year, nurses being called to the aid of 32 patients, 26 of whom recovered ; 445 domiciliary visits were made by nurses during 1930.

TABLE.
Pneumonia during the period 1926-30.

Year.	NOTIFIED CASES.			DEATHS.	
	Males.	Females.	Total.	Pneumonia.	Influenza.
1926	214	139	353	83	18
1927	285	218	503	115	113
1928	214	121	335	79	10
1929	442	304	746	143	94
1930	193	132	325	83	6

Of the 325 cases notified during the year, 191 were treated at home with 34 deaths, and 134 were removed to Institutions, of whom 33 died. It must be noted that there is always a preponderance of cases and deaths in males. The tendency is for more cases to be treated in Institutions, and Derby is very happily situated in having three Hospitals available. As a result of this removal to Hospital, there is also a steadily increasing proportion of deaths from Pneumonia occurring in Institutions.

The following Table gives the deaths in age groups from all forms of Pneumonia during the quinquennium.

Pneumonia Deaths, 1926-30.

Year.	Under 1 year.	1-5 yrs.	5-15 yrs.	15-45 yrs.	45-65 yrs.	65 yrs. & over	Deaths in Inst- tutions.
1926	22	14	3	18	15	11	50
1927	16	36	4	17	26	16	66
1928	18	8	3	7	28	15	51
1929	30	27	4	24	27	31	96
1930	16	15	3	14	16	19	60

The Registrar-Generals' returns of deaths from Pneumonia (all forms) do not correspond with the deaths of notified cases. The former include deaths from Broncho-pneumonia, which may be the terminal sequel of some other, possibly undiscovered condition,

even Tuberculosis, whereas, should a notified case of Primary Influenzal Pneumonia die, the death would be placed under the rubric Influenza.

The figures of these death returns are significant of the *great importance of respiratory complications in young children*, many of whom may have at first suffered from a 'common cold'. Recent work on dietetics has brought out a very definite relationship between deficiencies in Vitamin A in the diet of experimental animals and the onset of pneumonic complications, and there is some reason to believe that grave or fatal respiratory complications in young children are associated with an unbalanced diet, deficient in certain essential factors, even if of full calorific value for bodily needs.

There is also a deplorable loss of active workers in the prime of life, many of whom must be the victims of that prevailing optimism which treats a catarrhal condition as of no moment until compelled when gravely ill to call in their doctor.

Notifications of Pneumonia vary considerably from year to year, the reason being that they mask the presence of INFLUENZA. True Influenza appears to recur at intervals with a periodicity of about 33 weeks, and when one of the periods happens to occur in winter, associated with meteorological conditions producing fog and depressing weather, then the disease becomes very fatal to adults and those in declining years, as can be seen by comparing the deaths from Pneumonia and Influenza for the years 1927 and 1929 in the Table. Attendance at the funerals of friends is, alas, too often the direct cause of pneumonia and death in such epidemics.

ERYSIPELAS.

In pre-antiseptic days Erysipelas was a very serious and spreading infection in Hospitals and Infirmarys, producing great mortality ; it still remains on the list of Notifiable Infectious Diseases, but is no longer considered as contagious, a second case in an infected household being almost unknown, and, in modern practice, nearly all cases are safely treated at home.

Erysipelas principally attacks the middle-aged and elderly, probably by the implantation of infection in some abrasion around

the face, in the nasal passages, or complicating some other surface damage. The site of predilection is the head and face in nearly 90 per cent. of notified cases, which fact gives it greater importance as a cause of death.

Erysipelas is due to an organism of the same family as the recently determined causal agent of scarlet fever, namely, the Hæmolytic Streptococcus. The antitoxin which has been discovered and used in the treatment of scarlet fever is also of considerable value in neutralising the toxæmia of erysipelas, as is also a special antitoxin produced from the germ grown from cases of erysipelas. By the use of antitoxin it is possible in a large number of cases to save life, to shorten the period of illness and bring about an early recovery.

That the disease occurs less frequently than heretofore is perhaps a tribute to more careful first-aid in dealing with surface abrasions, and a higher standard of general cleanliness; but it still produces a fatal result as shown by the statistics given below. There is a slight preponderance of cases in the male sex.

Notifications and deaths from Erysipelas during the past five years.

<i>Year.</i>	<i>Notifications.</i>	<i>Deaths.</i>
1926	48	4
1927	53	2
1928	56	1
1929	60	3
1930	64	6

During the decennium 1911-20, there were 924 cases notified in the Borough, with 29 deaths, whereas the notifications for the past decade fell to 541, with 25 deaths, giving a case mortality rate of 46·2 per mil.

CEREBRO-SPINAL FEVER.

One case of cerebro-spinal fever was notified during the year, a male aged 23 years, who was a soldier at Normanton Barracks. The patient was removed to the Isolation Hospital and recovered.

POLIOMYELITIS.

Two cases of this disease were reported during the year, one a male aged 4 years, and one a female aged 18 months. Both were treated in the Derbyshire Royal Infirmary, and the female died from the disease.

ENCEPHALITIS LETHARGICA.

One case was notified during the year, a female aged 35 years, in the City Hospital. The onset was stated to have occurred five years previously. The left side was affected and the case proved fatal.

POLIO-ENCEPHALITIS.

No cases of Polio-Encephalitis were notified during 1930.

MALARIA.

One case of Malaria was notified during the year, a male aged 30 years, on 1st August, 1930. The patient was on leave from July to November from Tanganyika Territory, British East Africa.

DYSENTERY.

One case of Dysentery was notified during the year, a male aged 41 years. Examination of fæces gave a positive Shiga result. The source of infection was unknown.

OPHTHALMIA NEONATORUM.

Cases notified 25

18 of the cases were males and 7 females.

<i>Cases.</i>			<i>Vision unim- paired.</i>	<i>Vision im- paired.</i>	<i>Total Blind- ness.</i>	<i>Deaths.</i>
<i>Notified.</i>	<i>Treated.</i>					
	<i>At Home.</i>	<i>In Boro' Hospital</i>				
25	*20	†5	§25	...	...	1

* Included in this number is one case treated at the Derbyshire Royal Infirmary and one at the Children's Hospital as Out-patients.

† In-patients of Derbyshire Royal Infirmary (3), City Hospital (2).

The cause of death of the notified case was certified as Acute Broncho Pneumonia (died at nine months old).

§ Two cases left Derby before the end of the year, and could not be visited in 1931. At the time of the last visit, in 1930, the eyes were reported as clear.

The number of cases notified was 8 more than in 1929.

MEASLES and GERMAN MEASLES.

These diseases became notifiable from January 1st, 1916, by order of the Local Government Board (now Ministry of Health) : the disease is no longer generally notifiable, but in Derby is notifiable under a special regulation of 1920.

The two diseases are taken together for convenience, as the notifications received do not always specify which disease is present, but they are quite separate and distinct in character—attack by one does not protect from the other—they each behave according to their own epidemiological ‘ laws.’ From the point of view of the Public Health, measles is of far greater importance, being responsible for many deaths in young children, and for a great deal of invalidity in debilitated children who have suffered from an attack of the disease.

The number of deaths from measles has shown a tendency to decline in recent years, a matter for great congratulation and the result of many factors, amongst which can be included the improved nutrition of the general community, improved housing conditions and education with regard to the value of fresh air, the raised standards of parental care which have been inculcated through the work of Maternity and Child Welfare Departments.

The following Table gives the average annual number of deaths from measles in each decade from 1880 and illustrates this decline in mortality.

Deaths from Measles in Derby.

Decennial period.	1881-90	1891-00	1901-10	1911-20	1921-30
Average annual number of deaths recorded	36·7	34·7	26·4	25·5	12·5

More important, the proportion of deaths to notified cases, or fatality rate, has been very greatly reduced, and it would seem that the virulence of the infection in recent epidemics has been modified.

The mortality in measles depends mainly upon the age at which infection occurs ; the great majority of the deaths occur in children

under four years of age. Any increase in the proportion of cases among children under this age will be attended by a corresponding rise in fatality. A more complete analysis of the returns, taking into account the age at death, shows that the heaviest mortality occurs in the age group 1-2 years, after which is that of infants, and, of the latter, the risk of death falls with the greatest weight upon those aged 9-12 months.

Since the Maternity and Child Welfare Act (1918) came into force, measles as a cause of infantile mortality has been reduced considerably, but the risk of a fatal termination remains high in infants, the specific fatality rate of cases attacked being three times as high for children between six months and two years, as for those aged 2-3 years, the rate for the latter being again about three times as high as for those aged 3-4 years; in other words, for every year a child survives during this period of life without being attacked by measles, its chance of dying, if attacked, is diminished to a third. These facts bring out the great importance of deferring attack by measles until towards school age.

(Many local authorities, following the experience of several large cities abroad, are using the serum collected from convalescents to protect young or debilitated children who are found to have been exposed to infection).

The experience of the past twelve years is shown in the following table :—

TABLE.
MEASLES AND GERMAN MEASLES IN DERBY.

Year	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930
Cases

Deaths

Case rate per 1,000 Inhabitants

Death rate per 100,000 Inhabitants

Fatality rate % of death per 100 Cases

* German Measles was epidemic during this period.

The records and experience of many years show that measles tend to recur in waves, which follow each other at intervals of about 92 weeks, or a little less than two years, and that, if an epidemic is due to occur in winter, a severe outbreak may be anticipated. Recent epidemiological studies have suggested that these well-known facts can be explained by the development of a state of immunity amongst the child population exposed, apart from those who have been known to be attacked, which immunity is fleeting, and almost exhausted within two years. Many examples can be found in our records which tend to corroborate this view, namely, cases of family infection in which one or more children did not acquire measles at the time, but were attacked during their next exposure to measles, two or four years afterwards.

Complications.—Broncho-pneumonia as a complication is generally the cause of death, as also of the graver sequelæ, which may permanently damage a child who has suffered; careful clinical observation tends to confirm the view that the majority of such complications occur in young children who bear the stigmata of faulty nutrition, due to dietetic defects rather than lack of food, as evidenced by manifestations of rickets, and modern research has provided conclusive evidence that lung complications, even broncho-pneumonia, are prone to occur in any infective condition, should the dietary have been deficient in Vitamin A.

Measles has the peculiar disadvantage of reducing the bodily resistance to any concurrent infection, and, if the soil is poor, to boot, such infections may have a fatal termination.

Where the home conditions are entirely unsuitable, the Health Department is empowered to admit grave cases of measles to the Borough Isolation Hospital; during the last outbreak, many cases were admitted to the City Hospital. Arrangements are also in force for the provision of trained nurses from the Royal Nursing Institution to attend home cases. This expenditure is entirely justified by the results, for, in 1930, nurses attended in 37 cases with pneumonia complications, paying 593 visits, and 36 cases recovered.

As may be seen in the table, measles was very prevalent in the Borough in 1930, 5,202 cases of measles and German measles being

notified—by far the most extensive epidemic on record in the town. The infection was generally mild in character.

Measles is **not endemic** in Derby ; the first known cases of an outbreak are generally introduced from some other area by visitors or after children have been staying elsewhere for holidays. The town was thus infected in May, 1929, and the outbreak kept localised to the primary departments of three schools until the summer vacation, after which the disease became widespread, culminating in an epidemic which reached its height in February, 1930, when 533 cases were notified in one week. The epidemic came to an end in June.

German Measles.—On the other hand, this disease seems to exist in a mildly endemic state in the town, no evidence of its re-introduction from outside is ever forthcoming ; it assumes epidemic characters about every three or four years, these epidemics being more likely to occur in the late spring.

German measles was present from the spring of 1929, and began to be prevalent during the last quarter of the year, and, occurring during a similar epidemic period of both scarlet fever and measles, often led to great diagnostic difficulties. The epidemic reached its height in March, 1930, and produced the largest number of cases on record since notification was instituted. Generally mild in character, and practically never fatal, this epidemic was more severe than usual ; those infected, both adults and children, were often ill, and suffered from vague symptoms of a nervous type, or were slow in establishing convalescence after the period of rash had ceased.

CHICKEN POX.

Cases notified	...	...	...	...	1,954
Deaths	...	...	...	...	nil.

This disease has been notifiable since September, 1921, owing to the prevalence of Smallpox in neighbouring areas or in the Borough. The past year exceeds all others in the number of cases recorded, the disease having been epidemic throughout.

The following Table gives the recent history of Chicken Pox in the Borough.

Notification of Chicken Pox from 1922-30.

Year. ...	1922	1923	1924	1925	1926	1927	1928	1929	1930
Number of cases ...	495	905	779	1,512	1,521	1,121	865	715	1,954

All cases were visited by a Medical member of the Health Staff or by a Health Visitor or School Nurse. Of the cases notified during the past year, it was found that no fewer than 1,701, (or 87% of the total cases notified) were unvaccinated. One case of Chicken pox was reported to have had Smallpox previously.

Age periods and Ward distribution are shown in the table on page 164.

Sex.—There were 1,011 males and 943 females.

An analysis of the records shows that Chicken Pox is endemic, and the Borough has never been free from infection during the last ten years; that the junior population attending the Public Elementary Schools are the direct cause of spread through parental failure to recognise a case or occasional indifference as to the welfare of others, by allowing an infected child to continue attendance at school and to go to Sunday School. One case in a class is certain to produce infection in others, and these in turn pass the disease to younger members of the family, or, more rarely to adolescents and adults. The general line of spread can be traced from one school area to another by the cross-over which takes place to other schools,—Sunday or Day. The prevailing epidemic began in the Mansfield Road area during 1929, crossed to Kedleston Road Elementary School, and after infiltrating into the central area from King's Mead Ward, became widely diffused after the Christmas holiday. It has since circled the town.

The disease is generally very mild in type, but retains a high infectivity; some cases causing family spread have been so slight that no more than one or two poeks could be found. In all

probability such mild and missed cases are the cause of School outbreaks. Chicken Pox is not infective in proportion to the amount of skin eruption, but is on all fours with the other prevalent infections, infective by " droplets " from the nose and throat of cases in the earliest stage, and even for a few hours before any rash is noticed.

Whilst trivial as a cause of illness, *it is of major importance to Education Authorities*, causing the loss of thousands of weeks of school attendance during an epidemic, for it may reduce the average attendance in junior classes to 50% of normal. The first case in a family is excluded from school for three weeks, along with all other scholars under seven (unless previously infected) and these latter children may lose six weeks of school attendance.

Epidemiology. Information concerning the incidence of Chicken Pox in an urban population is scanty, so that the figures obtained from our records during the past decade, which cover over 10,000 cases, are of interest. The sexes were equally affected. There is a temporary immunity in infants under 3-4 months, with exceptions. The age distribution of cases shows a progressive increase to the age 6-7 years, after which it declines.

Relative percentage of total cases at age-groups.

Under 1 year.	1-2	2-3	3-4	4-5	5-10	10-15	over 15
5.0	6.1	7.5	9.3	11.4	52.2	6.0	2.0

Evidence is occasionally forthcoming of the development of latent immunisation in one or more children exposed in an infected family, who appear to escape the disease, but the immunity may be temporary, as some have acquired Chicken Pox during a later outbreak. In rare instances a child has had a second attack.

Relationship of Chicken Pox and Shingles (Herpes Zoster).

Such a relationship was first recorded by Bokay in 1888, much more completely worked out by Netter, of Paris, who, with Urbain, has established his thesis on the identity of the virus in the two by many clinical observations and by complement-fixation tests. That there is more than coincidence in one type following another in the same family seems to be confirmed by numerous observers.

Chicken Pox can occur in a house where there has been a case of Shingles, where the evidence is conclusive that there has been no exposure to a previous case, and *vice-versa*, but more rarely an adult may develop Shingles after exposure to Chicken Pox. Further, a combined condition may exist in the same patient.

Such cases have come under observation, of which the following are typical examples :—

(1) A youth attending a Secondary School, who had never been exposed to the disease—the school and home environment free from cases—developed Chicken Pox. An only child, it was found that his mother had been suffering from an attack of Shingles (undiagnosed) two weeks previously.

(2) Two young children, not attending school, with no cases of Chicken Pox in their neighbourhood, who played alone, were attacked by Chicken Pox, the rash of one preceding that of the other by less than two days. The father at the time had signs of a healing Shingles of the forehead.

(3) A youth of 17 suffered from violent headache, followed by spots. The Health Department was asked to decide whether it was Smallpox. No contact with a case of Chicken Pox was known, and the facial eruption was a typical ophthalmic Shingles, which followed the onset of headache in three days, and was itself followed in 36 hours by a moderate rash of Chicken Pox distributed over the trunk, shoulders, and thighs.

WHOOPIING COUGH.

During the year 53 cases of Whooping Cough (27 males, 26 females) of which 3 proved fatal, were investigated by the Nursing Staff of the Department. They were all under one year of age, and two died after removal to the City Hospital.

DIARRHŒA.

The deaths from Diarrhœa, which includes the various epidemic disorders of the intestinal tract in infants, numbered 18 during the past year ; for the period 1926–30, 77 deaths of children under two years of age were registered under Diarrhœa and Enteritis, 50 of these deaths occurring in infants under 6 months. Earlier in the century more deaths occurred in any one year. There is no special correlation between the number of deaths and periods of hot dry weather such as occurred formerly.

Two classes of case are included under this rubric ; a minority of children from better homes who, in spite of good maternal care have never thrived on the diet given (these are not really cases of Epidemic Diarrhœa) and the majority, young infants from dirty homes in the poorer parts of the town. There is no doubt that the work of the Maternity and Child Welfare Department has been of great value in reducing the once formidable mortality from these

causes, added to which are improved ideas of cleanliness, the introduction of water-closets, the reduction of flies by the steady elimination of stabling for horses in congested areas, and the provision of sanitary bins for house refuse.

The Tables of Infantile Mortality in all years show the relative immunity of breast-fed babies, and analysis of these 77 deaths shows that only 9 were reported to be entirely breast-fed, 15 had mixed feeding, the rest were hand-fed, usually on cows' milk and water. In poorer homes, apart from the habit of children to put everything in the mouth, a critical time is reached very early in the child's history, when it begins to eat " what we have ".

Health Visitors make an enquiry in every case, reporting on home conditions, manner of feeding, and whether the child sucked a " dummy ". From incomplete information on this head, over 60% were reported to have been inculcated into this pernicious habit, and practically all the cases from the poorer parts of the town. There is still need for reiterated teaching in this matter.

Vincent's Angina. A form of ulcerated or membranous sore throat, in which diphtheria may be suspected, but for the diagnosis of which microscopical examination of a throat smear is essential. Private doctors may occasionally ask for a report on a direct throat smear, and the Medical Officer in consultation may arrange for such in suspected cases, to elucidate the diagnosis. During the year seven smears were examined for this condition, of which three were positive.

SCHOOLS.—Action taken in relation to health and for preventing the spread of infection :—

Notification.—The routine enquiry which follows the lodging of information comprises details as to School and Sunday School attended by the patients and the last date of attendance. The Educational Department is immediately informed of the outbreak of infection in the home, and any other children attending school are excluded for the specific period required by the Regulations ; a notice is also sent to the Sunday School (if any) advising that the children should not be allowed to attend.

Disinfection.—The practice of disinfecting classrooms after the notification of Scarlet Fever is still followed, whereas in the case of Diphtheria, Measles, etc., this has fallen into disuetude. Many Authorities have discontinued such disinfection because the direct sources of infection are human beings, who may be sufferers or carriers of infection, whilst materials (fomites) are much less likely to be a cause of spread, save books, or pens and pencils used in common. Any books which may have been used by the case, if likely to be used by others, are removed for disinfection.

There are many instances where the same classroom has been repeatedly disinfected, yet further cases have continued to crop up, indicating that the particular age group of children may be susceptible and acquire the infection if exposed to a missed case or to one already developing the disease.

The popular idea as to the value of disinfection **under all circumstances** is hard to kill, and such occurrences may lead to criticism of the Health Department. The modern view that the repeated presence of susceptibles mixed with carriers causes the spread of disease, and not the school buildings or other environment, has not yet been popularised. If other Authorities have found that disinfection makes no difference, this practice could easily be stopped without risk.

Exclusion and re-admission of contacts and cases.

In order to fulfil the Regulations prescribed by the Board of Education, notice of exclusion of every case or family under surveillance is sent to the Education Department and to the Head Teacher, followed by a second notice when the children may be allowed to re-attend school.

Co-operation with the School Medical Department.

Every case of infectious disease coming to the notice of the above, either seen by the School Medical Officers at the Central School Clinic, local Minor Ailment Clinics, or during Routine Inspections, also those found by the School Nurses during school visitation or visits to the homes of absentees, is reported to the Medical Officer of Health.

By arrangement with the Education Department, the Head Teachers of all Departments in the Authority's Schools send reports to the Medical Officer of Health of all cases which come to their notice of infectious disease, and of children sent home with or absent on account of suspicious symptoms. Parents often inform the Head Teacher in order that the facts may be forwarded to the Health Office.

On receipt of such information, it is the duty of the Assistant Medical Officer to visit the homes, or arrange for such visitation by an Inspector or Health Visitor, to ascertain whether a doctor is in attendance, or to investigate the cause of absence from school, and, if necessary, to make further enquiries in the schools with a view to detection and isolation of contacts. Valuable information is thus obtained, which often enables the Health Department to prevent an outbreak or cut short an incipient epidemic ; and, in the case of Diphtheria, to detect " carriers " of infection and have these placed under suitable treatment. Such duties often demand a great deal of time, but there is no doubt that the co-ordination has produced, and continues to produce, its effects, and that the school children of Derby are exceptionally well guarded against the spread of infectious disease.

SCHOOL CLOSURE.

No schools were closed during 1930 on account of infectious disease.

VENEREAL DISEASES.

During the year the arrangements for the treatment of Venereal Diseases were similar to those described in the Annual Report for 1925.

The accompanying Return, on pages 204, 205 and 206, shows the work done at the Treatment Centre at the Derbyshire Royal Infirmary, and gives particulars of **all** cases treated, sub-divided according to the districts in which the patients live.

RETURN relating to all persons who were treated at the Treatment Centre at Royal Infirmary, Derby, during the year ended 31st December, 1930.

	Syphilis		Soft Chancres		Gonorrhœa		Conditions other than Venereal.		TOTAL	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1. Number of cases which—										
(a) at the beginning of the year under report were under treatment or observation for	129	81	7	1	171	80	24	21	331	183
(b) had been marked off in a previous year as having ceased to attend or as transferred to other Centres, and which returned to the Treatment Centre during the year under report suffering from the same infection	1	3	—	—	1	2	—	—	2	5
TOTAL—Items 1 (a) and 1 (b) ...	130	84	7	1	172	82	24	21	333	188
2 (a) Number of cases 1. less than dealt with at the one year's Treatment Centre standing	32	13	15	—	277	53	153	59	520	171
during the year for the first time 2. more than with infections of one year's standing	29	23	—	—	14	23				
TOTAL—Items 1 (a), 1 (b) and 2 (a)	191	120	22	1	463	158	177	80	853	359
2. (b). Number of cases included in Item 2 (a) known to have received previous treatment at other Centres for the same infection	6	5	—	—	22	4	—	—	28	9
3. Number of cases which ceased to attend—										
(a) before completing the first course of treatment for	16	14	3	1	59	36	—	—	78	51
(b) After one or more courses but before completion of treatment for	8	6	—	—	—	—	—	—	8	6
(c) after completion of treatment, but before final tests as to cure of ...	10	7	—	—	11	16	—	—	21	23
4. Number of cases transferred to other Treatment Centres after treatment for	10	3	2	—	43	3	—	—	55	6
5. Number of cases discharged after completion of treatment and observation for	21	11	13	—	172	25	—	—	206	36
6. Number of cases which, at the end of the year under report, were under treatment or observation for ...	126	79	4	—	178	78	23	15	331	172
TOTAL—Items 3, 4, 5 and 6 ...	191	120	22	1	463	158	23	15	699	294

FORM V.D. (R).—continued.

	Syphilis.		Soft Chanere.		Gonorrhœa		Conditions other than Venereal.		TOTAL.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
7. Out-patient attendances—										
(a) For individual attention by the Medical Officer	1978	1284	70	—	4722	667	494	53	7264	2004
(b) For intermediate treatment, e.g. irrigation, dressings, etc.	217	—	216	—	13614	1881			14047	1881
TOTAL ATTENDANCES ...	2195	1284	286	—	18336	2548	494	53	21311	3885
8. Aggregate number of "In-patient days" of treatment given to persons who were suffering from ...	95	9	28	—	98	208		26	221	243

	For detection of			For Wassermann Reaction
	Spirochetes	Gonococci	Other Organisms	
9. Examinations of Pathological material:—				
(a) Specimens which were examined at, and by the Medical Officer of, the Treatment Centre ...	49	1,256	—	—
(b) Specimens from persons attending at the Treatment Centre which were sent for examination to an approved laboratory ...	—	—	1	568

Statement showing the services rendered at the Treatment Centre during the year, classified according to the areas in which the patients resided.

Name of County or County Borough (or Country in the case of persons residing elsewhere than in England and Wales) to be inserted in these headings.	Derby Borough.	Derby County.	Staffs. County	Leicester County.	Notts. County.	TOTAL.
A. Number of cases from each area dealt with during the year <i>for the first time</i> and found to be suffering from:—						
Syphilis	55	38	3	1		97
Soft Chanere	11	4				15
Gonorrhœa	226	139	2			367
Conditions other than venereal ...	123	81	7		1	212
TOTAL ...	415	262	12	1	1	691
B. Total number of attendances of all patients residing in each area ...	17629	7458	94	13	2	25196
C. Aggregate number of "In-patient days" of all patients residing in each area ...	199	214	51			464
D. Number of doses of arsenobenzene compounds given in the:—						
1. Out-patient Clinic	766	557	26	3		1352
2. In-patient Dept.						
to patients residing in each area.						

FORM V.D. (R).—continued.

E.	Give the names of arsenobenzene compounds used in the treatment of Syphilis and the usual initial and final doses.	Noversenobillon—Initial dose .45 gms. Final dose .6 gms. Metarsenobillon } As per body weight. Sulfarsenol }
F.	State the amount and kind of treatment usually administered to a case of Syphilis of each of the types usually dealt with at the Treatment Centre.	All cases given two courses of 12 injections with an interval of 6 weeks. Late cases given further courses according to clinical conditions and results of W.R. In each case Mercury in the form of Hg. c̄ eret pills grs. ̄ by mouth or Bismuth in suspension from .2 to .4 gms. is given during the course. Congenital cases are treated c̄ Metarsenobillon or Sulfarsenol in doses of .01 gms. per kilo. of body weight, intramuscularly and mercury in the form of Hg. c̄ Cret by mouth. Central Nervous System cases are treated c̄ Tryparsamide.
G.	State the nature of tests applied in deciding as to discharge of patients referred to in Item 5 on previous page. (See note to Item 5 and Memo. V21, as amended by Memo. V21A.)	Gonorrhœa in Males and Females. All the tests as laid down in Memo. V. 21 with the exception of Cultures No. 2B, the Complement Fixation Test and the Silver Nitrate Test. Syphilis. In cases of Neg. W.R., after treatment laid down in F. above, Blood Test every 3 months, 1st year c̄ Prov. doses and 6 monthly in 2nd year. Cases c̄ continuous W.R. + given treatment as above c̄ K.I. and to report for clinical examination every 3 months for 2 years.

Pathological Specimens.—During the year the following specimens were examined at the Laboratory of the Derbyshire County Council ; the figures show the specimens examined from the Treatment Centre of the Venereal Diseases Clinic and those from private practitioners, and relate to Derby Borough cases only.

		<i>Spirochetes.</i>	<i>Gonococci.</i>	<i>Wassermann.</i>	<i>Others.</i>
Treatment Centre	...	Nil.	Nil.	348	2
Private Practitioners	...	Nil.	95	433	2

I have the honour to submit a report of the work carried out at the Venereal Disease Department of the Derbyshire Royal Infirmary during the years 1926-1930.

Under the Venereal Diseases Regulations arrangements are made for the diagnosis and treatment of persons suffering from or suspected to be suffering from syphilis, gonorrhœa, or soft chancre, in their earlier and at all communicable stages, irrespective of means or place or residence. Sessions are held at the Out-patient Clinic on three days in the week for men (Monday and Wednesday, 6—8 p.m., and Saturday, 2—4 p.m.), and on two days in the week for women (Monday, 3—5 p.m., and Thursday, 6—8 p.m.). Separate arrangements are made for the treatment of children. The addition of a door, in 1929, to connect the Clinic with the grounds of the Hospital has been found extremely useful. This door enables patients to enter and return without (as before) passing through the general Out-patients' department.

The undernoted table shows a progressive increase in the numbers of attendances during the period under review —

TABLE I.

<i>Year.</i>	<i>New Patients.</i>	<i>Total Attendances.</i>
1926 ...	480	21,011
1927 ...	517	20,285
1928 ...	655	22,236
1929 ...	684	24,115
1930 ...	691	25,196

These figures include patients from the Borough of Derby as well as from the Counties of Derbyshire, Staffordshire, Leicestershire, and Nottinghamshire. The progressive increase in numbers points to the willingness of the patient to be examined and to continue treatment over prolonged periods at a special treatment centre in preference to resorting to unqualified advice and quack remedies.

The following figures refer to patients residing in the Borough of Derby :—

TABLE II.

NEW CASES.				1926	1927	1928	1929	1930
SYPHILIS.								
Male	...	...		43	32	34	34	36
Female	...	...		25	14	18	25	19
Total	...			68	46	52	59	55
SOFT SORE				6	5	18	16	11
GONORRHOEA.								
Male	...	...		114	132	219	190	191
Female	...	...		16	24	34	35	35
Total	...			130	156	253	225	226
NON-VENEREAL.								
Male	...	...		67	81	86	97	96
Female	...	...		14	16	21	22	27
Total	...			81	97	107	119	123
TOTAL NEW CASES.								
Male	...	...		230	250	357	337	334
Female	...	...		55	54	73	82	81
TOTAL	...			285	304	430	419	415

Cases of gonorrhœa and non-venereal cases show a marked increase (73% and 52% respectively). This increase is partly due to the fact that more advantage is taken of the facilities offered at the Treatment Centre. During the five years, 577 patients were referred by medical practitioners, as follows:—

1926	1927	1928	1929	1930
105	97	127	120	128

A large proportion of the patients report direct, and it is evident that the existence of the clinic is sufficiently well known.

In spite of the increase in the number of new patients (46%), there is a decrease in the number of cases of syphilis. Though cases of gonorrhœa are increasing, the spread of syphilis is being controlled, and more efficient results are being obtained from the public health point of view.

Figures for female patients show the same variations as for male cases. The increase in the new cases of female gonorrhœa is a satisfactory and desirable feature, but it is evident that there must be many cases which do not receive adequate treatment.

In-Patients.—Two beds for males and two beds for females are provided for such cases as require in-patient treatment. At present these beds are used chiefly for those cases that show complications.

TABLE III.

		1926	1927	1928	1929	1930
IN-PATIENTS.						
Number	...	19	13	25	17	10
Total days in	...	295	240	317	260	199

Both the number of In-patients and the number of In-patient days show a fall, though the number of new patients has increased. Treatment is sought at an earlier stage, and there is a greater tendency to continue regular attendance until a cure is completed. Complications which would need in-patient treatment are thus avoided.

Out-patient Attendances.

TABLE IV.

			1926	1927	1928	1929	1930
SYPHILIS.							
Male	...	...	1259	1103	1223	993	1041
Female	...	...	1083	571	471	655	707
Total	..		2342	1674	1694	1648	1748
SOFT SORE			87	26	70	51	48
GONORRHOEA.							
Male	...	..	10225	9969	10808	13245	13852
Female	...	..	1695	1963	2088	1670	1686
Total	..		11920	11932	12896	14915	15538
NON-VENEREAL.							
Male	...	...	121	176	292	309	279
Female	...	...	33	30	23	38	16
Total	...		154	206	315	347	295
TOTAL	...		14503	13838	14975	16961	17629

The figures show a decrease in Syphilis cases and an increase in Gonorrhœa cases. The increase is due to the larger number of cases dealt with, but also reflects the confidence which the patients have in the nursing staff.

Cases Discharged Cured.

TABLE V.

		1926	1927	1928	1929	1930
Syphilis	... ..	21	23	14	13	17
Soft Sore	... ..	5	3	17	13	9
Gonorrhœa	... ..	72	104	97	125	135
Non-Venereal	... ..	54	71	74	91	95
		<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Total	... ..	152	201	202	242	256
		<hr/>	<hr/>	<hr/>	<hr/>	<hr/>

There is an increase (68%) in the number of patients discharged cured. Many cases are transferred to other Treatment Centres, and every effort is made to persuade patients to continue their treatment until they are discharged cured.

Microscopical Examinations.

Facilities are provided for the microscopical examinations for spirochætes and gonococci. The number of examinations made is given in the undernoted table :—

TABLE VI.

		1926	1927	1928	1929	1930
For Syphilis	... ..	22	26	31	31	49
For Gonorrhœa	... ..	912	938	1094	1126	1256
		<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Total	... ..	934	964	1125	1157	1305
		<hr/>	<hr/>	<hr/>	<hr/>	<hr/>

H. MORGAN RICHARDS,

30th March, 1931.

M.O. i/c V.D. Clinic.

CONSTITUTIONAL DISEASES.**CANCER.**

This disease continues to hold a foremost place in the minds of all concerned with the health of the community, occupying as it does the third place in the list of “ principal killing diseases ” and accounting for over 10 per cent. of the total number of deaths. The recorded death-rate for Cancer in England and Wales has about doubled during the last 40 years.

A comparison between the death returns for Derby and the whole country shows that there are no special local features, but that there is a steady increase in the number of deaths, due in part to the increased age of the population, more of whom survive into those periods of life when cancer is most frequent. The great saving of life which is the accepted result of all those manifold factors conducing to public health has greatly increased the “ risk of survival ” and left the legacy of a population in which the age proportions have altered.

In the local Census for 1901 we find that less than one quarter were aged 40 and over, whereas, in the Census of 1921, nearly one-third were aged 40 and over ; in other words, the population who may become victims of malignant disease has increased by 8 per cent, proportionally to the whole.

The following table gives the mean annual number of deaths from Cancer, and the fatality rate of the estimated living population at risk (over 40), in the yearly periods since the extension of the Borough in 1901.

Table—Cancer deaths.

PERIOD	1902-10	1911-20	1921-30
Mean annual number of deaths	93	124	174
Fatality rate per 1,000 living over 40 years of age ..	3·0	3·25	4·0

It is rather remarkable that the figures fall naturally into the above periods ; there were marked augmentations in 1911 and in 1921 which have been sustained through each following decade.

A great part of the increase is probably not real, but statistical, and due to improved diagnosis.

Cancer is, in the majority of cases, a slow disease, and the older the person the slower the progress: being a disease of the degenerative stage of human life it is inevitable that as a greater number of people survive to the Cancer age, a greater number will suffer from Cancer. If the incidence remains the same, then age for age, the death rate will remain the same. The question of increase depends upon the value to be attached to the statistical records, and the value of Cancer statistics depends entirely upon diagnosis.

Even at the present day the diagnosis of cancer of the internal organs, in spite of all advances in medical knowledge and in technical equipment for the examination of remote parts of the body, is still a matter of difficulty. It follows that earlier statistics must have notoriously understated the case as regards cancer of the internal organs, in those persons who did not submit to surgical operation, or in whose case no post mortem examination was made. The term old age, for example, is less frequently used as a cause of death than in former years; doubtless many deaths from cancer were formerly concealed under this title.

Apart from a few cases of 'sarcoma' in young folk, cancer (carcinoma, etc.) is very rare below 30 years of age, and not more than 5 per cent. of cancer deaths occur in Derby below 40 years. On the other hand, of all deaths occurring *over* 40 years of age (which account for 72 per cent. of total deaths) some form of cancer is accountable for 16 per cent. in the whole country. These deaths fall about equally in the age groups 45-65, and 'over 65', but the great increase in recorded cancer mortality is really in the three later age periods, *i.e.* at ages over 60 years.

Sex.—Comparison of the crude annual death rates at all ages for England and Wales shows that female deaths from cancer have always been in excess of male deaths, save during the middle years of the European War (when the living male population at risk was greatly reduced); that the female rate is slowly increasing, whereas the male rate has increased much more rapidly. In 1901 the male

rate was 69 per cent. of the female rate, whereas to-day the proportions are 93 : 100.

Cancer arising out of an occupational risk, associated or not with known or suspected carcinogenic agents, forms a very small proportion of the whole ; the problem is really much more general. When cancer mortality in males is set out in the five social classes distinguished in the Reports of the Registrar-General, it is shown that for " exposed " sites the mortality increases steadily from the highest to the lowest social class—similarly for all parts of the digestive system from lip to stomach, for the larynx and the skin. For all other sites the mortality is with few exceptions approximately the same for all social classes. These facts give a lead to all efforts and propaganda for the reduction of cancer mortality, suggesting that proper care of the body in the widest sense is important.

Cancer of the female organs of generation and breast, has always provided a heavy proportion of deaths in females ; if these are deducted, cancer is much more prevalent in the male sex. It may be stated broadly that death certification is now more accurate owing to improved methods of diagnosis, and that cancer seems to be increasing *or decreasing* in different organs of the body without marked distinction of sex, whereas cancer of the womb is definitely decreasing.

Site.—Analyses of local death returns shows that 59 per cent. are referred to the digestive organs including the mouth ; 32 per cent. to the genito-urinary system and 9 per cent. to other parts. Expressed in another way, *one case in four* is referred to the stomach and liver, to intestines and rectum, to female generative organs and breast, respectively. The bulk of the increase in the figures from year to year is in cancer from the gullet to the rectum, and the incidence is much heavier in males.

We now know that the development of cancer on an " exposed " site is a long process, that certain changes may have been noticed as long ago as 15 years, and we have other evidence that, of the two factors concerned in the causation of cancer, namely—*previous local disease or injury*, and susceptibility or resistance, the former is the more important.

Cancer Campaigns and Research.—More scientific co-ordinated research is being done on Cancer the world over than in any other branch of medicine, and our knowledge has been greatly increased, especially in the importance of early diagnosis, and in the use and value of radium and X-Rays, etc. as curative agents.

Recent special researches undertaken on behalf of the Ministry of Health as to the history of cancer affecting certain organs, have brought out the following facts very clearly—early cases, adequately treated by modern surgical methods, stand a good chance of survival for a period of years, and, on the other hand, there is still very great delay amongst the bulk of sufferers in seeking medical advice and treatment.

These enquiries are being continued ; the Ministry has now invited the Medical Officers of Health in large areas to co-operate with the Departmental Committee on Cancer, and to undertake local investigations concerning the disease, in response to which certain enquiries are proposed and about to be commenced in Derby.

Radium has now definitely taken its place at the side of operation as a means of curing cancer, and it seems fairly certain that by the use of Radium, in addition to the removal of the growth by operation, great improvement in the proportion of cures obtained will be secured in the near future.

The importance of Radium as a therapeutic agent has led to exaggerated ideas as to its value, and even to the view that it is a universal panacea which will cure every cancer in all stages of its development, and to the demand that Radium should be made available to all Hospitals for this purpose.

Radium, however, is a rare metal, found in tiny amounts in certain rare earths in two or three parts of the world, and the weight of a threepenny piece of radium costs about £12,000 ! Its use requires expert training, and the small amount available in any one country is likely to be of most service if kept at certain centres. The National Radium Trust has now provided small stocks which are generally allocated to large centres and hospitals, the nearest at present being Nottingham. Hopeful results are being obtained in the treatment

of cancer in certain exposed or accessible sites, when the cancer has not spread into other parts of the body ; we cannot expect that radium can ever be used to cure any cancer in the late stages of the disease, whilst, in the earliest stages of cancer, surgical removal is still the method of choice for many sites in which a growth develops.

RHEUMATISM.

In the table on page 44 it may be noticed that Heart Disease kills more persons in a year than all the infectious diseases combined ; admitting that a proportion of this great heart disease death-rate is due to degenerative changes in the elderly, that some is due to syphilis in those aged 40 or over, and a small portion to other infective diseases, it is important to remember that Acute Rheumatism is recognised as *the cause* of heart disease in the young and in practically all cases of heart disease dying before 40 years of age the cause can be ascribed to remote rheumatic infection.

Organic heart disease due to manifest or occult rheumatic infection has been found present in 7 per 1,000 of school children actually in attendance at school during routine examination (E. and W. 1924 figures : number examined approximately 600,000).

The rheumatic group of diseases are responsible for an enormous amount of sickness and invalidity amongst Insured Workers, amounting to 14 per cent., of the total sickness and disablement (figures derived from Approved Societies with a total membership of over three million, for the quinquennium 1921-5).

These facts, deaths and invalidity due to both acute and chronic rheumatism, are matters of grave moment in the health survey of the Medical Officer of Health.

Some Authorities have recently devoted a great deal of attention to this matter, taking action for the ascertainment of the amount of rheumatism in scholars, followed by the establishment of Rheumatism Clinics and Centres, and some have obtained authority for the notification of cases occurring in the practice of doctors. Moreover, on account of the great disability amongst workers as revealed by industrial statistics, the British Red Cross Society

has undertaken a campaign against " chronic rheumatism " and opened a special Clinic in London, with the intention of extending the work to other parts of the country.

Save for the deaths recorded, we have, as yet, no real knowledge of the extent to which rheumatic diseases are affecting the health of the Derby population, and it is desirable that our knowledge of the problem should be increased, in order to institute such preventive measures as are feasible.

v.—TUBERCULOSIS.

REPORT OF

DR. W. H. WRAY, Tuberculosis Medical Officer.

The most important change in the Tuberculosis Service during the year was the taking over of the Full Street premises for a Clinic and Offices. For the first time the general public, as well as the tuberculous patients, know where to go to find the Tuberculosis Medical Officer and his staff. The wisdom of the move is shewn in the large increase in attendances at the clinic, the better control of Contacts and the greater control of the patients generally, as the distribution of disinfectant fluid and paper handkerchiefs are for the first time under the supervision of the Tuberculosis Medical Officer and his staff. Another important point is that clinics are held daily, thus obviating delay. If one assumes that the Tuberculosis Service was established in order to benefit the tubercular people and the general public, then the move is more than justified.

The notifications, both pulmonary and non-pulmonary cases, shew increases. This is not unexpected, as fluctuations are inevitable. Tuberculous Meningitis is still the greatest factor in the non-pulmonary deaths, 14 out of 18 having been certified as due to that form of the disease.

Period between Notification and Death.

Of the 106 deaths from pulmonary tuberculosis in 1930, twelve had not been notified previous to death (*i.e.*, 10.4%). One case died on the day of notification, and in Table T.1, on page 229, is shewn the period between notification and death in the remaining 93 fatal cases. The percentage is slightly less than last year (10.4% compared with 11.1%). This is still high, and the institutions are the greatest offenders, Borough Council Institutions included. Many of these cases are rushed into institutions—Tuberculous Meningitis cases especially—and no doubt notification is held over while bacteriological investigations are being carried out. This is quite correct, in my opinion, but I urge that notification should be completed immediately the diagnosis is settled. It is quite possible to err on the other side and rush into notifying all sorts and types of cases simulating tuberculosis. The clinician is confronted with this problem daily, and every clinician knows that it is much easier to say that a patient is tubercular than to prove that he is not. Further comparative figures are given in Table T. 1 (a) on page 230.

Family History.

This important part of the investigations, to determine a patient's resistance, shewed that of 218 notified cases of pulmonary tuberculosis, 67 (30·7%) and 18 of the 44 non-pulmonary cases (40·9%) gave a history of tuberculosis in near relatives. Of the 14 tuberculous meningitis cases notified, eight had tubercular history in their families.

A history of respiratory disease in the families of 31 of the 262 notified cases was elicited, while of 429 deaths of contacts of tubercular patients in recent years, 139 (32·4%) were certified as having died from diseases of the respiratory system ; further, 30 other of the 429 deaths were certified as due to infectious diseases.

Tuberculosis Clinic.

The details of examinations made and the results of treatment are given in Table I., " Tuberculosis Scheme," on page 223, and in the Summary on page 235. It will be noted that the number of clinics held have increased by 126 over 1929, patients attending have increased by 312, and the number of attendances rose from 2,632 to 6,235.

The sources from which the new patients came are shewn in Table T.6, on page 232.

The number of new patients examined increased from 450 to 691, making the total number of new cases examined since July, 1912, to 8,104. The number of Contacts examined in 1930 was 334, compared with 175 in the previous year. Eleven of the 334 Contacts were notified.

These numbers would not have been possible except under the conditions which I am situated now. It must be borne in mind that I am working single handed, although in all boroughs of the size of Derby the Tuberculosis Medical Officer has the services at least part-time of an experienced assistant. The completion of the various tables required by the Ministry of Health involves a lot of extra work, and one is justified in doubting its value ; for instance, it is extremely difficult to convince old notified cases of from seventeen years downwards of the necessity of attendance at the clinic for examination in order that I may set them down in the appro-

priate table. The number of this class of patient is considerable, and, as one knows, the great majority were hurriedly notified, generally on slender grounds of justification, it is a question of some importance as to how much time one should spend over them. I will give one instance : one man of the type mentioned was visited by the Nurse, and he said he would attend if given an appointment. This was done, but he did not attend. Five other appointments, including nights and Saturday afternoon, were made for him, but he still failed to attend. It will be pointed out that provision is made for this type in the various tables ; undoubtedly, and this is where the tables are more use to the major or minor bureaucrat than to the clinician. If one overloads one or the other table, unfavourable comparisons will be made with other towns. On the other hand, it is quite easy to bring this or that percentage down if one is concerned with figures only ; but if one is concerned with preventive medicine, one will not be in any hurry to rush positive sputum cases into the " Recovered " table. After one has had over ten years as Tuberculosis Medical Officer in a Borough, one has had the great advantage of following cases over these years, and one realises very strongly the need for caution where positive sputum cases are concerned ; in fact, " once positive always positive " is almost correct.

The figures relating to infantile feeding and tuberculosis will be found in Table T.2, on page 230.

Home Visiting.

The number of home visits paid by the Nurse was 1,656, as compared with 2,012 in the previous year (details in Table T.7, on page 232).

The extra clinics of course took up a large part of the Nurse's time, and this most important branch of the anti-tuberculosis work suffered. A Borough of the size of Derby should have three Nurses on Tuberculosis, whereas Derby Borough has the distinction of having one Nurse only—the same as in 1919.

My visits are also slightly less than in 1929, partly due to the same cause and partly due to the difficulty in getting transport. This mainly applied to the first three-quarters of the year. Unnecessary complication and duplication may provide some person

with something to fill up his time, but surely where human bodies are concerned all trivialities should be ruthlessly stamped out.

Housing Conditions.

The housing conditions (size of houses, etc.) of the cases notified in 1930, are shewn in Table T.3, on page 231.

In 40 of the 262 notified cases there were two or more families to a house. Twenty-six other patients were lodgers, and in nine other infected houses there were lodgers. The percentage of households with two or more families was 15·3. This is an increase as compared with the past two years, but a decrease from the average for the past seven years.

The sanitary accommodation and the sleeping arrangements of the patients notified in 1930 are shewn in Tables T.4 and T.5 respectively (page 231).

It will be seen that in 248 cases where information could be obtained, only 84 (33·9%) had completely separate sleeping accommodation.

The comparative figures for the previous years are :—

1926	...	31·4%	1928	...	36·9%
1927	...	33·7%	1929	...	31·2%

Tuberculosis Sanatorium.

Details of admissions, discharges and results of treatment are given in the " Summary " on pages 235 and 236, and comparative figures (including length of stay) are given in Table T.8 on page 232.

The past five years have certainly not brought to light any further advance in the treatment of pulmonary tuberculosis. The various nostrums, injections of this and that material, generally outrageously expensive and equally ineffective, if not positively dangerous, have their advocates. Artificial pneumothorax treatment is becoming popular again. It is to be hoped it will be realised that only very carefully selected cases should be treated. The disease can only be fought properly in the homes of the sufferers : look for it in the children and provide means to combat it. The present system of spending the major portion of the money in attempting to cure the incurable in sanatoria is simply ludicrous ; still it goes on—it is popular.

PUBLIC HEALTH (Tuberculosis) REGULATIONS, 1912.

Tuberculosis Notifications—29th December, 1929, to 27th December, 1930.

FORM A.												FORM C.					
Primary Notifications.												Total Notifi- cations (including cases previously notified).	Poor Law Institu- tions.	Sana- toria Derby Borough. Others.	Deaths. 1930.		
0 to 1 to 1			5 to 10 to 15 to 20 to 25 to 35 to 45 to 55 to 65			65 and up- wards.			Total								
Pulmonary, Males .. Females	2	15	5	10	15	20	25		35	45	55	65	117	8	95	12	67
	...	1	12	6	12	13	12	16	8	1	1	1	82	10	69	1	39
Non-Pulm. Males .. Females ..	1	5	5	2	2	1	2	...	...	...	...	...	18	...	2	2	14
	1	3	6	...	2	1	1	2	...	...	...	...	16	...	3	2	4

Supplementary Return showing new cases of Tuberculosis discovered otherwise than by formal notification, for above-named period :—

Sources of Information of "Supplementary Return" Cases.												Number of Cases.		
												Death Returns—	Pulmonary	Non-Pulmonary
												Local ...	11	7
												Reg. Genl. ...	—	—
												Inward Transfers	3	—
												Other Sources (Posthumous)...	2	3
65														
55 and														
to up-														
65 w'ds														
Total														
</														

Ratio of Non-notified Tuberculosis Deaths to total Tuberculosis Deaths :—

Of the 106 deaths from Pulmonary Tuberculosis 12 (*i.e.*, 10.4%) were not notified until after death. Of the 18 deaths from non-pulmonary Tuberculosis, 9 (*i.e.* 50%) were not notified until after death. These figures do not include non-resident patients who died in Derby Institutions.

TUBERCULOSIS SCHEME OF THE DERBY COUNTY BOROUGH COUNCIL.

TABLE 1.—Return showing the work of the Dispensary during the year 1930.

DIAGNOSIS.	PULMONARY.				NON-PULMONARY.				TOTAL.			
	Adults.		Children		Adults.		Children.		Adults.		Children.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
* A.—NEW CASES examined during the year (excluding contacts):—												
(a) Definitely tuberculous ...	74	36	15	10	4	7	5	6	78	43	20	16
(b) Doubtfully tuberculous...	—	—	—	—	—	—	—	—	28	14	33	31
(c) Non-tuberculous ...	—	—	—	—	—	—	—	—	59	49	70	55
B.—CONTACTS examined during the year :— ...												
(a) Definitely tuberculous ...	—	1	3	3	—	1	—	2	—	2	3	5
(b) Doubtfully tuberculous	—	—	—	—	—	—	—	—	1	7	24	20
(c) Non-tuberculous ...	—	—	—	—	—	—	—	—	16	56	86	114
C.—CASES written off the Dispensary Register as												
(a) Cured ...	61	55	11	3	7	1	5	5	68	56	16	8
(b) Diagnosis not confirmed or non-tuberculous (including cancellation of cases notified in error) ...	—	—	—	—	—	—	—	—	99	127	206	216
D.—NUMBER OF PERSONS on Dispensary Register on December 31st :—												
(a) Diagnosis completed ...	285	183	105	77	15	13	18	19	300	196	123	96
(b) Diagnosis not completed	—	—	—	—	—	—	—	—	5	1	1	1
1. Number of persons on Dispensary Register on January 1st... ..	740											
2. Number of patients transferred from other areas and of "lost sight of" cases returned	101											
3. Number of patients transferred to other areas and cases "lost sight of"	81**											
4. Died during the year	71											
5. Number of observation cases under A (b) and B (b) above in which period of observation exceeded 2 months	57											
6. Number of attendances at the Dispensary (including Contacts) ...	6235											
7. Number of attendances of non-pulmonary cases at Orthopædic Out-stations for treatment or supervision	nil.											
8. Number of attendances, at General Hospitals or other Institutions approved for the purpose, of patients for												
(a) "Light" treatment	nil.											
(b) Other special forms of treatment	nil.											
9. Number of patients to whom Dental Treatment was given, at or in connection with the Dispensary...	nil.											
10. Number of consultations with medical practitioners :—												
(a) At Homes of Applicants	21											
(b) Otherwise	808											
11. Number of other visits by Tuberculosis Officers to Homes	82											
12. Number of visits by Nurses or Health Visitors to Homes for Dispensary purposes (427 other visits) ...	1229											
13. Number of												
(a) Specimens of sputum, &c., examined	1010											
(b) X-ray examinations made in connection with Dispensary work	161											
14. Number of Insured Persons on Dispensary Register on the 31st December	382											
15. Number of Insured Persons under Domiciliary Treatment on the 31st December	88											
16. Number of reports received during the year in respect of Insured Persons :—												
(a) Form G.P. 17	—											
(b) Form G.P. 36	133											

* Included in A (a) are 3 old cases (pulmonary) previously discharged as "cured," but showing symptoms of active tuberculosis on re-examination.

** Including 42 not desiring or requiring further public medical treatment.

TABLE II.
RESIDENTIAL INSTITUTIONS.

(A) AVERAGE NUMBER OF BEDS AVAILABLE FOR PATIENTS DURING THE YEAR 1930.

—	Observa- tion.	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		Total.
		“Sana- torium” Beds.	“Hospital” Beds.	Disease of Bones and Joints.	Other Conditions	
Adult Males	1	20	9	1	—	31
Adult Females	—	12	6	1	1	20
Children under 15 ...	1	20	—	3	—	24
TOTAL	2	52	15	5	1	75

(B) RETURN SHOWING THE EXTENT OF RESIDENTIAL TREATMENT DURING THE YEAR 1930.

			In Instit'ions on Jan. 1.	Admitted during the year.	Discharged during the year.	Died in the Instit'ions	In Instit'ions on Dec.31.
Number of Patients ...	Adults	M.	16	71	56	12	19
		F.	11	51	39	9	14
	Chil- dren.	M.	8	25	29	—	4
		F.	8	20	17	—	11
Number of Observation Cases	Adults	M.	1	2	2	—	1
		F.	—	—	—	—	—
	Chil- dren.	M.	—	2	2	—	—
		F.	—	—	—	—	—
	Total ...		44	171	145	21	49

TABLE IV.—(a) PULMONARY TUBERCULOSIS.

Annual Return showing in summary form the condition of all Patients whose case records are in the possession of the Dispensary at the end of 1930, arranged according to the years in which the patients first came under Public Medical Treatment for pulmonary tuberculosis, and their classification as shown on Form A.

Condition at the time of the last record made during the year to which the return relates.	Previous to 1926.				1926.				1927.				1928.				1929.				1930.										
	Class T. B. plus.				Class T. B. +				Class T. B. +				Class T. B. +				Class T. B. +				Class T. B. +										
	Group 1.	Group 2.	Group 3.	Total (Class T. B. plus).	Group 1.	Group 2.	Group 3.	Total (Class T. B. +)	Group 1.	Group 2.	Group 3.	Total (Class T. B. +)	Group 1.	Group 2.	Group 3.	Total (Class T. B. +)	Group 1.	Group 2.	Group 3.	Total (Class T. B. +)	Group 1.	Group 2.	Group 3.	Total (Class T. B. +)							
Discharged as cured.	Class T. B. minus.				Class T. B. minus.				Class T. B. minus.				Class T. B. minus.				Class T. B. minus.				Class T. B. minus.				Class T. B. minus.						
	Chil. dren Ad'ts				Chil. dren Ad'ts				Chil. dren Ad'ts				Chil. dren Ad'ts				Chil. dren Ad'ts				Chil. dren Ad'ts				Chil. dren Ad'ts						
	M.	72	9	1	82	M.	52	10	—	62	M.	21	—	—	—	21	M.	—	—	—	—	M.	—	—	—	M.	—	—	—	—	
	F.	33	1	—	34	F.	20	—	—	20	F.	22	—	—	—	22	F.	22	—	—	—	22	F.	—	—	—	F.	—	—	—	—
Disease arrested.	Chil. dren Ad'ts				Chil. dren Ad'ts				Chil. dren Ad'ts				Chil. dren Ad'ts				Chil. dren Ad'ts				Chil. dren Ad'ts				Chil. dren Ad'ts						
	M.	21	—	—	21	M.	21	1	—	22	M.	42	—	—	—	42	M.	29	17	1	—	46	M.	—	—	—	M.	—	—	—	—
	F.	17	1	—	18	F.	17	1	—	18	F.	15	—	—	—	15	F.	15	—	—	—	15	F.	—	—	—	F.	—	—	—	—
Disease not ascer- tained during the Year.	Chil. dren Ad'ts				Chil. dren Ad'ts				Chil. dren Ad'ts				Chil. dren Ad'ts				Chil. dren Ad'ts				Chil. dren Ad'ts				Chil. dren Ad'ts						
	M.	3	1	—	4	M.	3	1	—	4	M.	3	1	4	2	1	7	M.	3	1	4	2	1	7	M.	3	1	4	2	1	
	F.	1	1	—	2	F.	1	1	—	2	F.	1	1	—	2	1	2	3	F.	1	1	—	2	3	1	6	F.	1	1	—	2
	M.	1	—	—	1	M.	1	—	—	1	M.	1	—	—	1	—	—	—	M.	1	—	—	—	—	—	1	M.	1	—	—	—
Lost sight of or otherwise removed from Dispensary Register.	Chil. dren Ad'ts				Chil. dren Ad'ts				Chil. dren Ad'ts				Chil. dren Ad'ts				Chil. dren Ad'ts				Chil. dren Ad'ts				Chil. dren Ad'ts						
	M.	183	87	23	293	M.	183	87	23	293	M.	183	87	23	293	M.	183	87	23	293	M.	183	87	23	293	M.	183	87	23	293	
	F.	19	4	4	12	F.	19	4	4	12	F.	19	4	4	12	F.	19	4	4	12	F.	19	4	4	12	F.	19	4	4	12	
Totals	...	1858	496	274	341	1111	83	14	22	27	63	77	14	33	18	65	77	17	37	21	75	61	22	39	19	80	86	15	42	15	72

TABLE IV.—(b) NON-PULMONARY TUBERCULOSIS.

Annual Return showing in summary form the condition of all Patients whose case records are in the possession of the Dispensary at the end of 1930, arranged according to the years in which the patients first came under Public Medical Treatment, and their classification as shown on Form A.

Condition at the time of the last record made during the year to which the Return relates.		Previous to 1926.				1926.				1927.				1928.				1929.				1930.					
		Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	Total	Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	Total	Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	Total	Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	Total	Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	Total	
Discharged as cured	M. Chil- dren Ad'ts	3	1	2	9	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	F.	3	1	1	11	16	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	M.	9	21	10	52	92	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	F.	7	20	5	68	100	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Disease arrested	M.	1	-	-	-	1	-	-	-	-	2	-	-	-	3	-	-	-	-	-	-	1	-	-	-	1	
	F.	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	
	M. Chil- dren Ad'ts	2	-	-	1	3	-	-	-	1	2	1	1	1	4	8	2	1	-	1	2	-	-	-	-	1	
	F.	-	-	1	1	2	-	-	-	1	2	2	1	1	3	4	-	-	-	-	-	-	-	-	-	1	
Disease not arrested	M.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	-	-	-	3	
	F.	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	2	2	-	-	4	
	M. Chil- dren Ad'ts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-	5	
	F.	-	-	-	-	-	-	-	-	-	2	-	-	-	1	1	1	1	-	-	-	-	2	-	-	4	
Transferred to Pulmonary		9	9	3	14	35	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Condition not ascer- tained during the year		-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	
Lost sight of or otherwise removed from Dispensary Register		33	16	15	48	112	3	2	-	1	6	5	4	-	2	11	4	1	-	2	7	1	-	-	1	3	
DEAD.	M. Chil- dren Ad'ts	3	2	1	2	8	-	-	-	-	-	1	-	-	-	1	1	1	-	-	-	-	-	-	-	-	
	F.	3	2	4	3	12	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	M.	2	5	4	1	12	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	
	F.	1	9	3	4	17	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	1	
TOTALS ...		76	86	49	214	425	6	4	1	4	15	12	5	1	8	26	10	5	4	11	30	4	1	-	4	9	25
...																											

**Number of beds available for the treatment of Tuberculosis on the
31st December, 1930.**

**In Poor Law Institutions belonging to the Council (or to the Con-
stituent Authorities of the Joint Committee).**

Name of Institution.	For PULMONARY Cases.		For NON-PULMONARY Cases.		Total.
	Adults.	Children under 15	Adults.	Children under 15	
City Hospital, Derby.	20 male (no specified accommodation for females or children. Transferred to Sana- torium if possible, temporary accom- modation in side wards here).		Accommodation as required without any difficulty, also exten- sive balcony accom- modation.		

**Return showing the Extent of Residential Treatment provided
during the year in Poor Law Institutions for persons chargeable to
the Council (or to the Constituent Authorities of the Joint Committee).**

		In Insti- tutions on January 1st.	Admitted during the year.	Discharg- ed during the year.	Died in the Institu- tion.	In Insti- tutions on Dec. 31st.
Number of patients suffering from pulmonary tuberculosis admitted for treatment.	Adult Males	14	54	35	15	18
	Adult Females	7	15	14	5	3
	Children	2	1	2	—	1
	TOTAL ...	23	70	51	20	22
Number of patients non- pulmonary tuberculosis admitted for treatment	Adult Males	2	4	4	—	2
	Adult Females	1	2	1	1	1
	Children	3	6	5	—	4
	TOTAL ...	6	12	10	1	7
GRAND TOTAL ...		29	82	61	21	29

The number of Dispensaries approved for the treatment of Tuberculosis (including voluntary dispensaries used by the Council, but excluding centres used only for special forms of treatment) is One.

The number of Tuberculosis Officers (as defined in Article 2 of the Local Government (Qualifications of Medical Officers and Health Visitors) Regulations, 1930) is One.

The number of Assistant Tuberculosis Officers is One (part-time).

PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1924.

Number of cases of Tuberculosis remaining on the Register of Notifications kept by the Medical Officer of Health for the County Borough of Derby on the 31st of December, 1930 :—

<i>Pulmonary.</i>			<i>Non-Pulmonary.</i>			<i>Total Cases.</i>
<i>Males</i>	<i>Females</i>	<i>Total.</i>	<i>Males</i>	<i>Females</i>	<i>Total</i>	
603	438	1041	64	68	132	1173

PUBLIC HEALTH (PREVENTION OF TUBERCULOSIS) REGULATIONS, 1925.

No action was taken during 1930 under the above Regulations relating to tuberculous employees in the Milk Trade.

PUBLIC HEALTH ACT, 1925, SECTION 62.

No action was taken under this Section of the Act during 1930.

TABLE T1. **Period between Notification and Death** in 93 notified cases of pulmonary tuberculosis.

Period.	Instances.	Period.	Instances.	Period.	Instances
1 day	3	3 months	2	21 months	1
2 days	2	4 "	1	22 "	2
4 "	1	5 "	4	23 "	1
5 "	4	6 "	5	2 years	8
6 "	1	7 "	3	3 "	6
8 "	1	8 "	3	4 "	1
9 "	1	9 "	3	5 "	2
11 "	1	10 "	2	6 "	5
2 weeks	2	12 "	3	7 "	1
3 "	3	13 "	2	10 "	1
4 "	4	14 "	2	14 "	1
5 "	1	16 "	1		
7 "	2	18 "	1		
8 "	1	19 "	2		
2 months	2	20 "	1		

TABLE T1 (a). Comparative figures showing percentage of **non-notified** fatal cases of pulmonary tuberculosis.

1921	...	...	8.7%	1926	...	...	9.3%
1922	...	...	3.8%	1927	...	...	8.9%
1923	...	...	11.1%	1928	...	...	10.8%
1924	...	...	10.6%	1929	...	...	11.1%
1925	...	...	9.0%	1930	...	...	10.4%

Percentages of pulmonary tuberculosis patients who died without, or previous to notification, or within two years of notification.

1922	...	...	70.6%	1926	...	...	83.2%
1923	...	...	77.0%	1927	...	...	65.3%
1924	...	...	73.0%	1928	...	...	71.6%
1925	...	...	69.0%	1929	...	...	72.7%
			1930	...	...	...	76.4%

TABLE T2. **Infantile Feeding and Tuberculosis.**

	Breast only.	Breast supplemented with other feeding.	Artificial feeding wholly or partially of Cows Milk.	Other feeding (including Dried Milks).	TOTAL.
PULMONARY CASES	210	20	90	67	387
NON-PULMONARY CASES	74	11	29	20	134
OBSERVATION CASES	484	55	163	127	829
TOTAL	768	86	282	214	1350

TABLE T3. **Housing Conditions of Tuberculosis Patients** notified during 1930.

Type of House.	Pulmonary cases.	Non-pulmonary Cases.	TOTAL.
2 roomed	1	4	5
3 "	10	—	10
4 "	21	9	30
5 "	26	7	33
6 "	111	17	128
7 "	2	—	2
8 " and over	22	2	24
Common lodging houses	7	—	7
Houses let in lodgings	—	—	—
Institutions	11	2	13
No record obtained	7	3	10
TOTALS ...	218	44	262

TABLE T4. **Notified cases of Tuberculosis, 1930.** Sanitary accommodation of homes.

	Pulmonary Cases.	Non-pulmonary cases.	Total.
Water Closets ...	202	38	240
Trough " ...	5	3	8
Tub " ...	2	1	3
Privy and Ashpit ...	—	—	—
No record ...	9	2	11
Totals ...	218	44	262

TABLE T5. **Notified Cases of Tuberculosis, 1930.** Sleeping arrangements of Patients.

	Pulmonary Cases.	Non-Pulmonary Cases	TOTAL.
Patients with separate bed and bedroom	80	4	84
Patients with separate bed but not separate bedroom.	16	5	21
Patients with neither separate bed nor bedroom	112	31	143
No record	10	4	14
TOTALS ...	218	44	262

TABLE T6. **Tuberculosis Clinic.** Sources from which new patients came.

	1930.	1929. (comparison)
From Private Practitioners ...	200	192
„ Derby Institutions ...	23	12
„ Other Institutions ...	3	1
Transferred from other areas ...	5	7
From Ministry of Pensions ...	1	—
Came on own initiative ...	16	2
From Tuberculosis Staff... ..	358	191
„ School Medical Officer ...	85	45
	<hr/> 691 <hr/>	<hr/> 450 <hr/>

TABLE T7. **Nurses' Visits.**

To cases of pulmonary tuberculosis	1,344
„ „ „ non-pulmonary „	139
„ „ „ suspected „	10
Special Visits	163
Unsuccessful Visits	118
	<hr/> 1,784 <hr/>

Assisted at Tuberculosis Clinics, mornings,
afternoons and evenings 219

TABLE T8. **Tuberculosis Sanatorium.** Comparative figures.

			Admissions.	
			Pulmonary Tuberculosis	Non-pulmonary Tuberculosis.
1924	...	...	108	8
1925	...	...	122	2
1926	...	...	93	—
1927	...	...	92	2
1928	...	...	91	4
1929	...	...	108	3
1930	...	...	162	5

Average stay per patient.

	Discharged cases.	Fatal cases.
1924	(128) 204·6 days	(1) 136·0 days
1925	(100) 167·1 „	(5) 133·4 „
1926	(93) 176·6 „	(9) 168·6 „
1927	(98) 231·2 „	(13) 62·8 „
1928	(84) 193·2 „	(12) 118·9 „
1929	(107) 160·5 „	(9) 119·0 „
1930	(141) 145·9 „	(21) 104·0 „

Open-air Shelters.—Shelters were loaned to 22 patients during 1930, and at the end of the year there were nineteen shelters provided; seventeen of these were in use, the other two being temporarily unoccupied.

Ancillary Treatment.—During the year 18 patients received ancillary treatment in the form of a supply of milk daily (6 at one quart and 12 at one pint). In six instances the supply was terminated by death or on account of the patient's no longer falling within the regulations governing the granting of such assistance; leaving at the end of the year 12 patients receiving this allowance (3 one quart and 9 one pint daily).

Summary.**NOTIFICATIONS.**

Pulmonary Tuberculosis.

Non-Pulmonary Tuberculosis.

Males 128, Females 90, Total 218. Males 27, Females 17, Total 44.

Of the 44 cases of Non-Pulmonary Tuberculosis notified in 1930,

17 were cases of Tuberculous Meningitis.

9 „ „ Tuberculosis of the Cervical Glands.

In 11 cases there was tuberculosis of the bone (spine 7, hip 2, knee 1 and elbow 1). One case was notified as general tuberculosis, one as tuberculosis of the testes, and the remainder (5) were cases of abdominal tuberculosis.

DEATHS.

Pulmonary Tuberculosis 106. Non-Pulmonary Tuberculosis 18.

AGE AND SEX INCIDENCE

Age Periods.		NEW CASES.				DEATHS.			
		Pulmonary.		Non-Pulmonary.		Pulmonary.		Non-Pulmonary.	
		M.	F.	M.	F.	M.	F.	M.	F.
0—1	..	—	—	2	1	—	1	3	—
1—5	..	2	1	9	3	2	—	6	2
5—10	..	15	12	7	6	—	—	2	—
10—15	..	5	6	2	1	—	—	1	—
15—20	..	11	13	3	2	5	6	1	1
20—25	..	10	14	1	1	5	8	—	—
25—35	..	21	12	2	1	10	8	—	—
35—45	..	23	18	—	2	18	7	—	1
45—55	..	27	9	—	—	12	5	—	—
55—65	..	12	3	1	—	11	2	1	—
65 and upwards	..	2	2	—	—	4	2	—	—
Totals	..	128	90	27	17	67	39	14	4

WARD DISTRIBUTION.

				CASES NOTIFIED.			DEATHS.		
				Pul-monary	Other forms.	Total.	Pul-monary	Other forms.	Total.
Abbey	...	...	...	10	2	12	10	—	10
Alvaston	...	...	...	17	2	19	6	1	7
Arboretum	...	...	...	14	1	15	5	—	5
Babington	...	...	...	12	2	14	2	—	2
Becket	...	...	...	12	3	15	7	—	7
Bridge	...	...	...	10	4	14	8	2	10
Castle	...	...	...	18	8	26	13	7	20
Dale	...	...	...	18	3	21	—	1	1
Derwent	...	...	...	13	2	15	9	—	9
Friar Gate	...	...	...	11	—	11	7	—	7
King's Mead	...	...	...	30	4	34	12	2	14
Litchurch	...	...	...	15	4	19	5	1	6
Normanton	...	...	...	9	4	13	4	2	6
Osmaston	...	...	...	8	5	15	10	1	11
Pear Tree	...	...	...	11	—	11	6	1	7
Rowditch	...	...	...	10	—	10	2	—	2
Totals	...	...	...	218	44	262	106	18	124

COMPARISON WITH PREVIOUS YEARS
NOTIFICATIONS.

	1924	1925	1926	1927	1928	1929	1930
Pulmonary	283	267	219	175	207	194	218
Other Forms	53	54	30	37	53	34	44

DEATHS.

	1924	1925	1926	1927	1928	1929	1930
Pulmonary	113	111	107	78	102	99	106
Other Forms	25	24	13	18	27	20	18

TUBERCULOSIS CLINIC.

Number of Clinics held	...	...	...	...	319
Total number of patients attending Clinic	...	...	...	...	1414
Total number of attendances	...	...	...	...	6235
Number of insured persons attending Clinic	...	...	...	...	550
Number of attendances of insured persons	...	...	...	...	2031

NOTIFIED CASES ON VISITING LIST AT END OF 1930 :—

Pulmonary Tuberculosis	...	...	...	...	925
Non-Pulmonary Tuberculosis	...	...	...	...	118
Total	...	...	...	...	1043

SANATORIUM :—(It should be noted that Tables II. and III. "Tuberculosis Scheme" on pages 224 and 225 refer to *all* patients sent by the Local Authority to Sanatoria and include, therefore, particulars not only of patients in the Derby Borough Sanatorium, but also of those patients sent to outside Sanatoria or to approved residential institutions, such as the Home of Rest, Derby. The following figures refer *only* to the work of the Borough Tuberculosis Sanatorium).

	In Sana- torium 31st Dec., 1929.	Admitted.	Dis- charged.	Dead.	In Sana- torium 31st Dec., 1930.
Pulmonary Tuberculosis ...	37	162	137	21	41
Other forms ...	2	5	4	...	3
Total ...	39	167	141	21	44

ADMISSIONS.

	MALES.			FEMALES.		
	Adults.	Boys.	Total.	Adults.	Girls.	Total.
Pulmonary	72	23	95	48	19	67
Other forms	—	2	2	2	1	3
Total	72	25	97	50	20	70

SUMMARY OF RESULTS.—The condition of the 141 discharged patients is summarised as follows :—

				ADULTS.	CHILDREN.
Much improved	...	...	...	34	31
Improved	...	...	...	32	11
<i>In statu quo</i>	...	...	...	26	5
Worse	...	...	...	2	...
Totals				94	47

Charity Organisation Society.

As in previous years, the Society has given attention to the after-care of certain tuberculous patients, and according to the information furnished by the Hon. Secretary, also arranged for three months' treatment of one woman in the Eversfield Chest Hospital, St. Leonards-on-Sea. Extra nourishment was provided in two cases.

vi.—HOSPITALS.



INCLUDING REPORT

BY

DR. TAYLOR, Resident Medical Superintendent,
Isolation Hospital and Sanatorium.

GENERAL STATISTICS.

	<i>Scarlet Fever.</i>	<i>Diph- theria.</i>	<i>Measles.</i>	<i>Others.</i>	<i>Total.</i>
Remaining in Hospital, Dec. 31st, 1929 ...	116	21	—	1	138
Admitted during 1930 ...	427	310	3	27	767
Number discharged during 1930	518	276	2	23	819
Number who have died during 1930	5	20	1	5	31
Remaining under treatment on Dec. 31st, 1930 ...	20	35	—	—	55
Average stay in Hospital, days	37	48	16	7	—

SCARLET FEVER.

Number of cases	427
Number of Deaths	5
Case Mortality	1.1%

Admissions.

At ages 0—5 years	103
At ages 5—10 „	121
At ages 10—15 years	70
At ages 15 years and over	133

With reference to the large proportion of adults admitted, it should be noted that 1930 was an epidemic year, and many cases desiring Hospital treatment could not be accepted. Consequently, many children were nursed at home, where the parents were well enough to look after them, but the great majority of adults who contracted the disease sought hospital in order to avoid infecting younger members of the household.

Fatal Cases.

As deaths from Scarlet Fever are relatively infrequent, the following details are given :—

1. Female of 34 years. Lived in Hospital $4\frac{1}{2}$ hours. A post mortem examination revealed the following conditions. (a) Toxic Scarlet Fever, (b) Acute Hæmorrhagic Nephritis (History of previous Kidney Disease), (c) Atheromatous changes in the Heart.

2. Male of 17 years. In Hospital 33 days. Post mortem examination showed (a) Acute Generalised Tuberculosis, (b) Potts Disease (of 10 years duration), (c) Scarlet Fever.

3. Male three years. In Hospital three days. (a) Toxic Scarlet Fever, (b) Acute Peritonitis, (c) Unhealed operation wound for Hernia.

4. Male 32 years. In Hospital 33 days. (a) Scarlet Fever, (b) Scarlatina Arthritis, (c) Acute Endocarditis.

5. Female eight years. In Hospital 13 days. (a) Septic Scarlet Fever.

It is worthy of note that out of 807 cases of Scarlet Fever admitted during the preceding three years, there was one death.

Cross Infections.

With Chickenpox ... 3

Return Cases—2%.

Complications.

Present on admission.

Otorrhœa	...	...	...	6
Subacute Nephritis	...	...	3	
Appendicitis	...	...	1	
Pertussis	...	...	1	
Rectal Carcinoma	...	...	1	
Scalds or Burns	...	...	5	
Potts' Disease	...	...	1	
Mastoid Operation Wound	...	...	3	
Acute Bronchitis	...	...	2	

Occurring after admission.

	<i>Serum treated cases.</i>	<i>Non-serum.</i>
Adenitis	4	15
Nephritis	—	3
Albuminuria	2	11
Arthritis	2	7
Rhinitis	3	10
Acute Suppurative Otitis Media	1	8
	—	—
	12	54
	—	—

Complication Rate of Serum Cases ... 7%
 „ „ Non-serum Cases 21%

170 cases were treated with Scarlet Fever Antitoxin and averaged 32 days' stay in Hospital.

257 cases received no Antitoxin and averaged 40 days' stay in Hospital.

The expense entailed in treating cases with Antitoxin is more than saved by the reduced complications rate and reduced stay in Hospital.

Every case of Scarlet Fever is swabbed on admission and on several subsequent dates, and 30 cases (7% of the admissions) were found to show Positive Swabs, *i.e.*, were harbouring the germs of Diphtheria.

Scarlet Fever still continues to be mild in type, and, coupled with the use of Scarlet Fever Antitoxin in the treatment of the disease, the mortality rate is likely to remain a low one.

Scarlet Fever, however, still picks out any underlying weakness, and aggravates it, such as Joint, Kidney, Ear and Gland affections. It is in the prevention of those troublesome complications that Scarlet Fever Antitoxin is showing its greatest value. It is regrettable, therefore, that the great majority of Scarlet Fever patients arrive in the Hospital after the third day of the disease, as, apart from having remained at home when most highly infectious, they are unable to receive the benefit of Antitoxin, which materially reduces the chances of complication and the period of stay in Hospital.

During the winter of 1929-1930, Scarlet Fever assumed epidemic proportions, and the greatest difficulty was experienced in accommodating all desiring Hospital treatment. In spite of taking over the Children's Tuberculosis Ward for convalescent Scarlet Fever cases, gross overcrowding occurred in the wards. The staff were seriously inconvenienced with regard to their own sleeping accommodation, and great credit is due to them for the uncomplaining manner in which they carried on.

DIPHTHERIA.

Number of cases admitted	...	310
Number of Deaths	... ..	20
Death rate	... ..	6.4%

<i>Age period.</i>	<i>Cases.</i>	<i>Deaths.</i>
0—5 years	89	12
5—10 years	134	7
10—15 years	42	—
15 years and over	45	1

Day of illness on admission (Fatal Cases).

12 were admitted on 4th day of illness.

4	„	„	5th	„	„
2	„	„	6th	„	„
1	was	„	7th	„	„
1	„	„	21st	„	„ (missed case).

Duration of stay in Hospital of 20 Fatal Cases.

1	...	2½ hours.	3	...	3 days.
2	...	3 „	2	...	4 „
1	...	4½ „	3	...	5 „
1	...	7 „	1	...	6 „
1	...	24 „	1	...	8 „
1	...	32 „	1	...	18 „
	1	...		22 days.	
	1	...		43 „	

The average dose of Antitoxin given to those 20 fatal cases was 90,000 units.

The following complications occurred (excluding Fatal Cases).**Paralysis.**

Soft Palate	...	12
Ciliary	...	4
Pharynx	...	3

Otorrhœa occurred in six cases.

Laryngeal Obstruction.

Cases 24

Tracheotomy ... 4 (3 Successful, 1 Fatal).

Some of the complications present on admission were :—

Scarlet Fever 3 ; Tuberculosis of Hip Joint 2 ; Diabetes 1 ;

Broncho Pneumonia 1 ; Chorea 1 ; Mentally Defective 2 ;

Otorrhœa 10 ; Tuberculous Abscess 2.

Cross Infection.—Five cases developed Scarlet Fever. In one instance, a child began to desquamate one week after admission and infected 3 other children in her neighbourhood.

No doubt, a less over-crowded ward would have reduced the number of secondary cases in this instance.

Total Cases admitted during 1930 310

Admitted before 4th day of illness 62%

Admitted on or after 4th day of illness 38%

Cases admitted on 1st and 2nd day of illness averaged
10,000 units of Antitoxin

Cases admitted on 3rd day of illness averaged 24,000 units of
Antitoxin.

Cases admitted on or after 4th day of illness averaged 56,000
units of Antitoxin.

Greatest amount of Antitoxin given to a case which recovered—
150,000 units.

Greatest amount of Antitoxin given to a case which died—
180,000 units.

Antitoxin was administered before admission in 40 cases.

The most welcome feature of the Diphtheria figures this year is the fact that 62% of cases were admitted before the 4th day of illness, a marked improvement on previous years. It will be noted from figures above, that no fatal cases occurred among those admitted before the 4th day of illness. For Diphtheria there is an absolutely specific cure, Antitoxin. To ensure recovery from the disease, it is only necessary that sufficient Antitoxin be given within

a reasonable time, roughly before the 4th day of illness. It is sad, therefore to reflect that in 1930, 20 cases of Diphtheria died in our Institution, and that all were admitted after the 4th day.

In addition another 20 border-line cases just survived after huge doses of Antitoxin and approximately 3 months stay in hospital. One often wonders, how many of those severe "border-line cases" ever recover sufficiently from the severe heart damage left after Diphtheria to enable them to live the life of an active, useful citizen. How many of them gradually become a burden to their parents, or to the State?

In an age, pressing for virile citizens, are we still to allow a disease, for the treatment of which, if only started in time, we have a practically infallible cure, and for the prevention of which, we have that potent weapon, the Schick Test and immunisation, to kill and maim our children, and cast a heavy burden on the rates?

It is in an Infectious Diseases Hospital that one sees so fully and constantly the tragic end results of Diphtheria, indeed such Institutions have a virtual monopoly of the moribund and border-line cases. The clinical picture of this type of case is an almost constant one—a young child with ghastly pallor, blocked nose continually discharging, mouth wide open for breathing, grossly swollen neck glands, throat blocked with the thick membraneous growth of Diphtheria, and emitting an extraordinary foul, putrid smell, and a pulse which is beginning or threatening to run out. How often does one feel that had the case been admitted even some hours sooner, recovery might have ensued! What is the mother's story. It too has invariably the same ring about it: "The child was off colour, the next day I kept him in bed; the third day he said his throat hurt him a bit and I thought it was just a cold; the fourth day I noticed his colour was awful, that his neck was swelling and that there was a terrible smell from him. I fetched the doctor." But alas, how often the answer is "Too late."

The problem is a general one found all over the country and the world. New York statistics show that in 1928 out of 2,976 cases of Diphtheria admitted to the three largest Fever Hospitals there, 13.6% died, and for 1929 (nine months) out of 2,072 cases, 13% died.

How are we to get at the back of this tragic ignorance of a disease, which can be so easily treated and cured? Can Derby lead the way? Can Derby set an example to the rest of the country?

OTHER CASES.

<i>Disease.</i>	<i>Result.</i>
3 Measles	1 Died.
1 Cerebro-Spinal Meningitis.	Recovered.
1 Laryngitis.	„
7 Observation Scarlet Fever.	„
2 Observation Meningitis.	„
1 Urticaria.	„
1 Broncho Pneumonia.	Died.
1 Broncho Pneumonia, Acute Capillary Bronchitis.	Died.
1 Acute Meningo-Encephalitis.	„
12 Diphtheria Carriers.	2 Died.

The accommodation for “other cases” consists at present of 5 cubicles. The result is that very few cases of this type can be admitted, and this was markedly so last year, on account of the heavy number of Scarlet Fever cases admitted during the first half of the year and a similar rush of Diphtheria cases in the last three months.

With reference to the two fatal cases among the Diphtheria Carriers, one was aged 63 years, transferred from another hospital, who died $4\frac{1}{2}$ days after admission from Chronic Endocarditis. The other case was a child of 2 years suffering from Congenital Hydrocephalus, who died after one year's stay in Hospital.

Staff Illnesses. The following staff were removed to the wards on account of illness:—

1. A nurse who contracted Measles.
2. A nurse who contracted Diphtheria. This case is of special interest, as she had been Schick Tested, found Positive and immunised by 4 injections. The attack was an exceptionally mild one, and was followed by an uneventful recovery. This girl had been very run down after a series of colds, and was nursing in an overcrowded Diphtheria ward containing

several very severe cases. This is the first instance of a member of the nursing staff contracting Diphtheria, since the introduction of Schick Testing and Immunisation for all new nurses in 1926.

Schick Test and Immunisation against Diphtheria.—During 1930, 32 nurses were Schick Tested, 13 were found to be Schick Positive, and 11 were immunised.

Dick Test and Immunisation against Scarlet Fever.—During 1930, 32 nurses were Dick Tested, 12 were found to be Dick Positive and 9 were immunised.

The Schick Test was introduced as a routine measure for all new nurses at the beginning of 1926, while the Dick Test was commenced the following year, 1927. Since then 86 nurses have been subjected to those tests, and 48 have been immunised either against Diphtheria or Scarlet Fever.

During those five years, one nurse has contracted Diphtheria (case mentioned above), while no Dick Tested nurse has contracted Scarlet Fever. The only non-tested nurse, during this period, sent to nurse in the Scarlet Fever ward (owing to an emergency) did contract Scarlet Fever.

During 1925, four members of the staff developed Diphtheria and in 1924, 10 members. The benefits of those results considerably outweigh the inconvenience sometimes caused by a relatively large group of nurses having to spend a long initial period on the Sanatorium while awaiting the development of immunity.

Nurses' Examinations.—In 1930, one nurse passed the Preliminary Examination and two failed, while 5 nurses passed their Final. Five nurses were granted their Hospital Certificate.

Sub-Probationer Nurses.—This scheme, originated by Alderman H. Slaney, to attract suitable candidates into the nursing service, shows every sign of being an excellent one. A quota of five Sub-probationers per year, has been allotted to this Institution. These girls are engaged at 16 years of age, from suitable candidates, are

non-resident, and are tutored and assist in the various departments of the hospital for two years, after which they enter Hospital as Probationers and complete their training.

The keenness of these girls and the progress they have made in the first year of working, augur well for the complete success of the scheme. When the scheme is extended to one other Municipal Hospital, and interchange of nurses begins to take place under the scheme, the problem of obtaining suitable, efficient nurses may well be largely solved.

SANATORIUM.

Number of patients admitted during 1930 ... 167

The admissions fell into the following groups :—

Adults.

T. B. Positive; Males	...	...	55
T. B. Positive; Females...	...	...	21
T. B. Negative; Males	...	...	14
T. B. Negative; Females	...	...	27
Non-Pulmonary T.B.; Females	...	...	2
Observation Cases	...	...	3

Children.

T. B. Negative Males	...	...	22
T. B. Negative Females	...	...	16
T. B. Positive Females	...	...	3
Non-Pulmonary Tuberculosis	...	...	3
Observation Cases	...	...	1

Number of deaths during 1930 ... 1 (12 males, 9 Females).

The average stay of twenty-one fatal cases was 104 days, and some of the shortest stays were five days, eight days, 16, 19, 30 and 35 days.

Duration of Residential Treatment.

The average stay of the children admitted was approximately 20 weeks, which figure may be considered satisfactory.

The average stay of T. B. Negative men was 102 days. The greatest difficulty is experienced in persuading this group to stay for longer than three months, the reasons advanced for desiring to get home always being economic and social ones.

In the case of T. B. Negative Females, the average stay was 150 days.

No figures are shown for T. B. Positive cases, as these are complicated by deaths, by the determination of some advanced cases, very soon after admission, to die at home, and by the fact that some chronic cases stay in hospital until lack of bed accommodation necessitates their transfer to home.

Sanatorium.

Every effort was made throughout the year to enforce a strict routine in the matter of graded rest, exercise and work, with defined hours of recreation and sleep. Many points exist, however, which make the attainment of such a routine more difficult than usual. For instance, the Institution caters for children, Sanatorium, Hospital and advanced cases, and the three Tuberculosis Wards are not built to hold such a mixture satisfactorily. Also, patients are forced to take their exercise walks on the public highway, obviously a most unsatisfactory method. The absence of a workshop where handicrafts could be taught, on a properly organised system, has been a great want. Fortunately, those three points are about to be corrected.

SURVEY OF THE QUINQUENNIAL PERIOD, 1926—1930.

The preceding five years have proved eventful ones in the history of the Institution, both by reason of work done and work in the process of being completed, and the Health Committee may well congratulate itself on having slowly but surely, in face of economic difficulties always present, proceeded to set its house in order.

The following list details some of the work carried out during the above period :—

Extension to Nurses' Home (Sanatorium).

The existing home was considerably enlarged so as to accommodate all the Sanatorium Nursing and Domestic Staff in one building, and thereby do away with the temporary army hut, which had long outlived its usefulness. The present home now affords all the amenities which are necessary to keep a staff comfortable and satisfied.

Sanatorium Patients' Accommodation and Welfare.

The frontage of the Sanatorium Main Block was re-modelled and a wide asphalt road laid down, flanked by a small fence and flower border. A new road was laid down from this block to the Children's Ward, and also across to the Fever Hospital. A dis-used plot of land, used for dumping soil and rubbish, was converted into a turfed resting ground, with ornamental steps, rockeries and borders. A large rockery was constructed along the whole length of the Main Block at the back.

Four new Cubicles, with sanitary conveniences, were erected at the Male Tuberculosis Block, thus meeting a long-felt need for better facilities for the isolation of those seriously ill or requiring rest and quiet. All the bathrooms and lavatories in the Sanatorium were tiled and re-floored, and the whole Sanatorium was re-painted and distempered throughout.

The orchard was brought under the lawn mower, and the ditch at the wooden fence was filled in and replaced by a shrubbery and flower border. Many new paths and borders were made throughout.

Medical Superintendent's House.

A new house was erected and furnished, with garage, outhouses, and laying out of grounds, and was occupied in August, 1926.

Tennis Court.

This was re-laid and the surrounding ground was re-modelled and turfed, and a large summer-house was erected for the use of nurses and their friends.

Laboratory.

The Laboratory was re-modelled and re-painted. A new hot-water boiler, autoclave, inspissator, hot air steriliser, electric incubator and centrifuge were installed. A new working bench was put up, and the sterilising room was rendered steam-free by means of tiling, canopy and electric fan.

New Sputum Sterilising Chamber and Steriliser.

The erection of a new chamber with a steam sterilising outfit removed an old-standing complaint by the Ministry of Health and superseded a system which was dirty and inefficient.

Mortuary and Post Mortem Room.

New, modern buildings in an accessible site removed a stigma which had long worried the Committee.

Garage and Ambulance.

A new Morris ambulance was purchased, and the laying down of new roads around, the erection of new walls and the construction of an inspection pit completed its satisfactory accommodation.

Greenhouse.

The completion of a large new Greenhouse was a satisfactory sequel to the laying down of so many new flower borders

Lodge.

A new scullery was built.

Staff Accommodation.

A temporary wooden building to house five nurses was built behind A Ward. It has not proved satisfactory, and will shortly be no longer required. Its future use will be as a playroom for convalescents from A Ward or as an overflow during epidemics.

Fever Wards.

Wash-hand basins and new cupboarding were put in in the entrance halls of A and B Wards. Eight wash-hand basins and a steriliser for crockery were put in in the Cubicle Ward.

The kitchen of A, B and C Wards was tiled.

A complete new lighting system, comprising flood lighting and portable lights over each bed for throat inspection, was ordered for B Ward.

A considerable start was made in re-tiling the roofs of several buildings.

Monel metal table tops were introduced into all kitchens, and one Monel metal sink was put in as an experiment.

About £400 was expended on new ward furniture and fittings.

In 1926 the Institution became a State Registered Hospital for the training of nurses in Infectious Diseases.

Hospital Extensions.

The greatest step forward during the quinquennial period undoubtedly was the formulation of, and the sanction by the Ministry of Health to an Extension Scheme of considerable dimensions. As this work has begun at the time of writing, it seems appropriate to briefly describe the nature of the scheme in this five-yearly survey.

Nurses' Home.

A home to adequately house the nursing staff, with the exception of the Sanatorium day staff, who will remain in their present home, is to be erected on new land situated immediately at the back of the present boundary fence on the Infectious Diseases side. This home will be a three-storey building, containing 32 bedrooms, recreation room, lecture room, study, sister's room, visitors' room, rooms for drying hair and for ironing, wash-basins in every bedroom, and ample sanitary conveniences. The site is a particularly high, open one, with a magnificent view for miles around.

It has been planned on most modern lines, and will supersede the present inconvenient system of housing the nursing staff in five separate buildings throughout the Institution, a system which has not retained the best type of nurse in our service in the past.

Cubicle Block.

This Ward will contain 24 individual rooms, each with its own running water, and easily controlled from the central duty room, the whole having a cruciform shape. One room will be fitted up as an operating theatre. The block will contain four bathrooms and two discharge rooms. The erection of this block will materially increase the available cubicle accommodation, which has been so thoroughly inadequate, and it is hoped that many of the less common Infectious Diseases will be housed here, enabling the nursing staff

to receive a fuller training, as befits a State Registered Training School. At present these cases are scattered throughout the various institutions in the town.

New Children's Ward at Sanatorium.

The present temporary wooden building, which has so long stood discredited, will be pulled down and replaced by a pavilion ward of 24 beds, with schoolroom, recreation room and dining room attached.

New Concert Hall and Recreation Room.

A modern brick building, with all necessary conveniences, will replace the present corrugated iron premises.

Administrative Home.

Extensions here will provide adequate office accommodation for the Matron and Assistant Matron, a new waiting room, and an enlarged dispensary with a new store room attached.

Enlargement of the present kitchen will convert it into a Central Kitchen, cooking for Staff and patients both on the Fever side and the Sanatorium.

The present stores will be replaced by a much larger brick building, divided into storage rooms for food, milk, crockery, etc.

Laundry and Disinfector.

The removal of the steam disinfector into new premises will be utilised to extend the laundry.

Cottages.

Two cottages are to be built in front of the Hospital entrance for the Ambulance Drivers, who will then be available for any call.

Internal Telephone.

An inter-communicating internal telephone system between all wards and departments will replace the present inadequate and moribund service.

It is proposed to transfer the old schoolroom, which is to be replaced, to another site, and utilise it as a workshop, where the Sanatorium patients may receive instruction in handicrafts. This is a step, which cannot be too warmly commended, and should prove most advantageous to the patients.

It is also proposed to erect permanent shelters for the reception of male patients, with Negative Sputum, as their present accommodation will vanish as soon as building work commences.

As regards the future, there are two points which appear to claim attention.

Fever Hospital.

When the new cubicle block is completed, the official bed accommodation for Infectious Diseases will be 80 beds. This still falls short of what is required for the growing town. I suggest that one more pavilion ward of 20 beds is still required, in order to cope with epidemics, and to allow periodic emptying and disinfection of a ward, which may have been in use for a long period. It would also allow the admission of certain cases of Measles in time of stress, and thus alleviate the congestion caused by the admission of such cases to other Institutions in the town, not primarily intended for their reception. Indeed it would simply uphold the principle, adopted in all larger towns of segregating all Infectious Diseases in the Hospital constructed for that purpose, and giving the staff of such a hospital the training they expect, and, in future may well demand.

Sanatorium.

In the Annual Report for 1925, Dr. Brindley stressed the need for an X-ray installation at the Sanatorium. Present day methods of treatment and diagnosis of Tuberculosis, make its necessity still more apparent, and it is suggested that the Committee, when completing their arrangements for dealing with this terrible scourge, should fully consider the desirability of arming themselves with this most potent weapon of all.

Isolation Hospital Provisioning, 1930.

1930.	Days in Hospital (Patients).	Average Patients per day.	Cost of Provisioning.			Average Cost per Patient per day.*	
			£	s.	d.	s.	d.
1st Quarter	10474	116·4	607	1	9½	1	1·91
2nd „	7927	87·1	522	1	11½	1	3·81
3rd „	6756	73·4	484	19	4	1	5·23
4th „	6680	72·6	486	10	9	1	5·49
Totals 1930	31837	87·2	2100	13	0	1	3·84
Totals for 1929	26076	71·4	1955	15	1	1	6·00

*This includes cost of provisioning staff.

Tuberculosis Sanatorium Provisioning, 1930.

1930.	Days in Sanatorium (Patients).	Average Patients per day.	Cost of Provisioning.			Average Cost per Patient per day.*	
			£	s.	d.	s.	d.
1st Quarter	4342	48·24	446	17	4½	2	0·70
2nd „	5812	63·86	460	9	3	1	7·00
3rd „	6778	73·67	541	1	9½	1	7·16
4th „	5700	61·95	539	6	11½	1	10·71
Totals 1930	22632	62·00	1987	15	4½	1	9·08
Totals for 1929	18078	49·53	1737	18	7	1	11·07

* This includes cost of provisioning staff.

(COPY.)

Form Hosp. 6.

INSTITUTIONAL TREATMENT OF THE SICK.

1. County Borough Council of DERBY.
2. Name and situation of Institution : CITY HOSPITAL.
3. Define the area and give the population served by the Institution : COUNTY BOROUGH OF DERBY.
4. State what Institution is—

*A hospital maintained under the Poor Law Act.

5. State total number of beds available in the Institution, for sick, maternity and mental cases—

(a)	for men	...	...	...	...	...	108
(b)	for women	...	...	...	...	...	107
(c)	for children (under 16 years of age	...	...	...	...	...	61
	(excluding cots in maternity wards.)						

							276
--	--	--	--	--	--	--	-----

* As defined in the Public Assistance Order, 1930.

Table showing the classification of the accommodation for the sick, and the number of beds occupied on the 31st December, 1930.

Classification of Wards.*	No. of Wards	BEDS.							
		MEN.		WOMEN.		CHILDREN (under 16 years of age)		Total.	
		Pro-vided.	Occu-pied.	Pro-vided.	Occu-pied.	Pro-vided.	Occu-pied.	Pro-vided.	Occu-pied.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. Medical		32	31	33	36	—	—	65	67
2. Surgical		32	30	32	34	—	—	64	64
3. Children		—	—	—	—	61	58	61	58
4. Chronic sick†		(No specific accommodation on wards 1, 2, 9).							
5. Venereal		Accommodated in Boun dary House Institu tion.							
6. Tuberculosis		20	19	—	—	—	—	20	19
7. Isolation††		(No specific accommodation. Adequate number of side wards)							
8. Maternity		—	—	16	9	—	—	16	9
9. Mental		24	24	26	27	—	—	50	51
(a) Short stay §		(Some times 0, some times 2 or 3 pa tients).							
(b) Long stay‡		Accommodated in Boun dary House Institu tion.							
10. Mental defectives‡		Accommodated in Boun dary House Institu tion.							
11. Other.									
TOTAL		108	104	107	106	61	58	276	268

* If not classified as in Table, the wards used for more than one class of patient should be grouped. Cots in adult wards should be entered in column 7 ; children in adult wards (whether in beds or in cots) in column 8.

† Patients needing hospital treatment because they are suffering from some chronic disease ; also aged infirm persons whose medical and nursing needs approximate to those of chronic patients.

†† Reserved specifically for the isolation and treatment of infectious diseases.

§ See sections 20 and 21 of the Lunacy Act, 1890.

‡ See sections 24 to 26 of the Lunacy Act, 1890.

**Statistics relating to the period from the 1st April to the 31st December
1930.**

(A) IN-PATIENTS.

1.	Total number of admissions: 1,333 + 20 members of staffs of City Hospital, Boundary House and Children's Homes. Average duration of stay	...	...	...	14.1 days
2.	Number of Maternity cases admitted (62 births, 6 re-admissions, 12 pregnant + other disease not treated in Maternity Wards.)	...	...	...	80
3.	Number of live births	...	...	...	60
4.	Number of still births	...	...	...	2
5.	Number of deaths among the newly-born (<i>i.e.</i> under four weeks of age)	...	...	...	2
6.	Total number of deaths among children under one year	...	...	...	7
7.	Number of Maternal deaths	...	...	...	0
8.	Total number of deaths (includes most of ordinary senile mortality from Boundary House)	...	...	...	234
9.	Number of patients discharged	...	...	...	1,098
10.	Average duration of stay of patients included in 8 and 9 above (total patient-days divided by deaths and discharges)	...	...	...	49.2 days
11.	Number of beds occupied (<i>a</i>) average during the period	...	...	...	261
	(<i>b</i>) highest on 11/12/30	...	...	...	291
	(<i>c</i>) lowest on 20/7/30	...	...	...	234
12.	Number of surgical operations under general anæsthetic (excluding dental operations)	...	...	...	206
13.	Number of abdominal sections	...	...	...	44

(B) OUT-PATIENTS.

1. State the nature and scope of the out-patient provision (if any) for continuation of treatment, emergency treatment, consultations or otherwise.

No out-patient department as such is in existence at present. In-patients are discharged, but, if necessary, receive continuation treatment as out-patients such as re-examination, massage, dental, light, course of injections, etc.

Emergency treatment, with admittance if required, is afforded to accidents and injuries brought direct to hospital, mainly those occurring in the locality of the hospital.

2. Total number of persons seen in the out-patient department 0
3. Number of these persons who were admitted for in-patient treatment in the Institution 0
4. Number of these persons who had received in-patient treatment in the Institution 0
5. Total number of attendances in the out-patient department—Approximately 20 per wk.
6. If there is an ante-natal clinic, give the number of women seen and the total number of attendances.

A Maternity Scheme has just been put forward and an Ante-Natal Clinie is to be started.

7. If there is a Venereal Disease Clinic, give the number of patients seen and the total number of attendances 0

(C) Classification of In-patients who were discharged from or who died in the Institution during the period 1st April to 31st December, 1930.

DISEASE GROUPS.	<i>Children (under 16 yrs. of age)</i>	<i>Men and Women.</i>
A. Acute infectious disease (1)	113	43
B. Influenza (2)	—	3
C. Tuberculosis—		
Pulmonary	2	53
Non-pulmonary	4	4
D. Malignant disease (3)	—	60
E. Rheumatism		
(1) Acute rheumatism (rheumatic fever) together with sub-acute rheumatism and chorea ...	7	10
(2) Non-articular manifestations of so-called "rheumatism" (muscular rheumatism, fibrositis, lumbago and sciatica ...	—	4
(3) Chronic arthritis	—	27
F. Venereal Disease	1	7
G. Puerperal Pyrexia	—	3
H. Puerperal Fever	—	10
I. Other diseases and accidents connected with child bearing	—	31
J. Mental diseases	8	99
K. Senile decay (4)	—	89
L. Violence (5)	4	67
In respect of cases not included above :—		
M. Disease of the Nervous System and Sense Organs	12	98
N. Disease of the Respiratory System ..	21	63
O. " " Circulatory " ...	3	88
P. " " Digestive " ...	19	87
Q. " " Genito-urinary " ...	3	52
R. " " Skin 	28	51
S. Other diseases	17	26

- (1) Including—with the exception of Influenzal Pneumonia, Tuberculosis Puerperal Pyrexia and Puerperal Fever—all generally notifiable diseases together with Measles, German Measles, Chickenpox, Whooping Cough and Mumps. Cases of Influenzal Pneumonia, Tuberculosis, Puerperal Pyrexia and Puerperal Fever will be recorded respectively among groups B., C., G., and H. Cases of Encephalitis Lethargica should be entered under Group A. if acute and under Group M. if chronic.
- (2) Including Acute Influenzal Pneumonia.
- (3) Including Carcinoma and Sarcoma.
- (4) To be confined to cases and deaths in which no more specific diagnosis was practicable.
- (5) Including suicides, attempted suicides and poisoning cases.

12th February, 1931.

(Signed) R. G. COOKE.

Medical Superintendent.

Institutional Provision for the Care of Mental Defectives.

The Corporation maintain the Thornhill Certified Institution, situated in Trowels Lane, Derby (near to the Borough Mental Hospital) for the Care of Mental Defectives. Forty beds are provided and the class of case accommodated is that of Low Grade female mental defectives under the age of 16, but 6 higher grade adult females are also taken.

Dr. Bain (Medical Superintendent of the Borough Mental Hospital) is the Medical Adviser.

HOSPITALS AND INSTITUTIONS IN CONNECTION WITH THE COUNTY BOROUGH OF DERBY.

(a) CHARACTER, SITUATION, etc.

(1) Name.	(2) Situation.	(3) Purpose.	(4) Number of Available beds.	(5) Proportion used by persons resident outside the Area.	(6) Management.	(7) Medical Staff.*		(8) Nursing Staff.*		(9) Arrangements for Employment of Consultants*	(10) Remarks.
						Number.	Classification.	Number.	Classification.		
Isolation Hospital.	Little Chester, Derby.	Infectious Disease.	56	3%	Health Committee of L.A.	1	Res. Med. Supt.	1 1 1 3 3 12 5	Matron. Asst. Matron Night Supt. Sisters. Staff Nurses. Probationers. Sub-Probationers	Local Consultants called in as required.	Res. Med. Supt., Matron, Assist. Matron and Night Supt. are joint appoint- ments between Isolation Hospital & Sanatorium.
Borough Sanatorium.	Do.	Sanatorium.	71	Nil.	Do.	As above for Isolation Hospital.		2 1 9	Asst. Matron & Night Supt., as above. Sisters. Staff Nurse. Probationers.	Tuberculosis Officer.	Do.
Derby and Burton Joint Smallpox Hospital.	Blakeloy, nr. Etwall, Derbyshire.	Smallpox.	40	Nil.	Joint Committee of Derby and Burton-on-Trent Corporations.	—	—	—	—	—	Medical and Nursing Staffs supplied by each Authority as required. Matron of I. Hospital, Burton, is Super- visory Matron.
Mental Hospital.	Rowditch, Derby.	Mental.	480	4%	Asylum and Care of Mentally Defective Committee of L.A.	1 2	R. Med. Supt. Asst. M.O's.	1 1 8 33 1 7 — 26	Matron. Asst. Matron. Charge Nurses. Nurses. Head Male Nurse. Male Charge Nurses. Male Nurses.	Local Consultants called in when necessary.	—
Thornhill Certified Institution.	Trowols Lane, Derby.	Care of Mental De- fectives.	40	55%	Do.	—	—	1 1 6	Matron. Charge Nurse. Nurses.	Do.	Med. Supt. of Mental Hos- pital is Medical Adviser.
City Hospital.	Uttoxeter Rd., Derby.	General.	276	5%	Joint Sub-Committee of Public Assistance and Health Committees of L.A.	1 2 1	R. Med. Supt. Asst. M.O's. Non-resident anaesthetist (part-time).	1 1 1 1 1 1 8 48	Matron. Asst. Matron. Home Sister. X-Ray Sister. Theatre Sister. Maternity Sister. Night Sister. Ward Sisters. Probationer Nurses.	Consulting Physician and Consulting Radiologist each attend one day weekly. Local Consultants called in as required for general Surgery, Gynaecology, Ophthalmic, and Ear, Nose and Throat work.	—
Boundary House.	Uttoxeter Rd., Derby.	Poor Law Institu- tion.	91 (+ Wards being re- conditioned, ap- proximately 100).	1%	Public Assistance Com- mittee of L.A.	As above for City Hospital.		1 2 11 1 12 10 5	Matron. Sisters. Asst. Nurses. Sister and Asst. Nurses. Wards when Female Attendants. Male Attendants.	— ready for occupation.	Facilities provided are those required for nursing infirm cases. Cases of acute illness arising in the Institution transferred to City Hos- pital.
Derbyshire Royal Infirmary.	London Rd., Derby.	General Hospital.	347	49.6%	Voluntary Committee.	—	—	—	—	—	—
Derbyshire Hospital for Women.	Friar Gate, Derby.	Gynaecological and Abnormal Mid- wifery.	54 and 6 cots.	40%	Do.	—	—	—	—	—	—
Derbyshire Hospital for Sick Children.	North Street, Derby.	Children in Town and County of Derby.	52	Cannot state.	Do.	—	—	—	—	—	—
Queen Victoria Mo- norial Home of Rest.	West Parkfields, Ked- leston Rd., Derby.	Chronic Cases—Sick and Dying.	34	Nil.	Do.	—	—	—	—	—	—

* Information in respect of Columns (7), (8), and (9) is required in respect of Hospitals under the control of the Local Authority only.

(b) BEDS AVAILABLE AND SPECIAL FACILITIES.

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BEDS AVAILABLE.

SPECIAL FACILITIES, ETC.

Name.	General Medical		General Surgical		Children		Maternity	Venereal Diseases		Tuberculosis		Chronic Sick		Mental		Mental Def'cy		Orthopaedic		Ear, Nose & Throat		Puerperal Fever and Pyrexia		Ophthalmia Neonatorum		Others			Operative Surgery	X-Ray Depts.	Dental Dept.	Ophthalmic Dept.	Massage Dept.	Pathological Dept.	Radium Dept.		
	M.	F.	M.	F.	M.	F.		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.											M.	F.
Isolation Hospital ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5 Cubicles could be utilised	Infectious Diseases	28	28	Inadequate	No	Minor Extractions done by R.M. Supt. Do. School Dental Surgeon attends	No	No	No	No	
Sanatorium ...	—	—	—	—	—	—	—	—	—	44	27	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	No	No	Do.	No	No	No	No			
Smallpox Hospital ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Smallpox	20	20	No	No	No	No	No	No	No		
Mental Hospital ...	—	—	—	—	—	—	—	—	—	—	—	—	—	204	276	—	—	—	—	—	—	—	—	—	—	—	—	N	At City Hosp.	Dental Surgeon attends fortnightly	Ophthalmic Surgeon called in when required	No	Yes	No			
Thornhill Certified Institution	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	40	—	—	—	—	—	—	—	—	—	—	No	Do.	Do.	Do.	No	Yes	No			
City Hospital ...	32	33	32	32	61	16	—	—	20	—	—	Accommodated as required in various Wards.	24	26	—	—	—	—	Accommodated as required	—	—	—	—	—	—	Accommodated inside Wards as required	Side Ward Accommodation adequate and any special cases can be accommodated as required	—	—	Theatre Block. Small theatre in one of Ward Blocks available for Septic cases	Yes Radiologist, Radiographer and Assistant from D.R.I. attend one day weekly and on special occasions if required. Trained Sister (part-time) does urgent cases.	Visiting Dentist attends one or two days weekly. Extractions, fillings & dentures provided for in-patients who continue as out-patients until treatment completed	Examination room provided Consultant called in as required	Yes Two part-time Masseuses employed	Laboratory for all routine work provided. Sections sent to Birmingham University. Sputum and Throat Swabs to Derby Health Department. Wassermanns to Derbyshire Co. C. Lab. Dispenser (after part-time training) combines duties of Dispenser & Pathological Assistant	No	
Boundary House Institution	—	—	—	—	House Nursery 20	Venereal Cases 3	Accommodated when required	—	—	—	—	Infirm Wards 42 46	In Home 20 30	—	—	—	—	—	—	—	—	—	—	—	—	Infirm Wards of approximate accommodation of 100 being re-conditioned and nearing completion	—	—	No	No	No	No	No	No	No	No	
Derbyshire Royal Infirmary	30	30	91	58	44	Gynaecological 23	2 2	Included in medical	—	—	—	—	—	—	—	—	—	Included in Surgical	12	12	2 (Beds reserved by arrangement with County Council and included in Medical)	—	2 (Children)	—	—	Ophthalmic (Children) Casualty Dept (Emergency) Observation	19 18	3 1 2	Yes 6 Theatres	Yes (Deep X-Ray Therapy shortly)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Derbyshire Hospital for Women ...	—	—	—	45	6	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Yes	Yes	No	No	No	No	Yes	No	No	
Derbyshire Hospital for Sick Children ...	—	—	—	—	52	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Yes	No	Yes	Yes	No	No	No	No	No	
Queen Victoria Memorial Home of Rest ...	—	—	—	—	—	—	—	—	—	—	—	26	8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	No.	No	No	No	No	No	No	No	No	

vii.—FOOD AND HOUSING.

INCLUDING REPORTS

BY

MR. H. J. MORGAN, Chief Sanitary Inspector ;

MR. H. A. WALLACE, Markets Superintendent ;

DR. W. E. HAIGH—"An Inquiry into the Ventilation of
Cinematograph Theatres" ;

AND

MR. T. B. FARRINGTON, Water Engineer.

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*TO THE MEDICAL OFFICER OF HEALTH,
COUNTY BOROUGH OF DERBY.*

I beg to submit to you my Annual Report on the Sanitary Conditions of the Borough for the year 1930.

The details of the number and nature of inspections, the nuisances found, the notices served, and the result of the service of such notices, are found in the following tabulated lists. This work is in no way connected with that information given under those lists which bear the sub-heading "Housing," which very important work is confined to Inspectors specially detailed for work on the Housing Acts alone.

SANITARY INSPECTION OF TOWN.

During the year 3,206 PRELIMINARY NOTICES were served in respect of defects in drains, conversion of privies or tubs to water closets, etc., and to abate nuisances under Public Health or Local Acts.

7,926 defects were remedied.

31,327 visits made by Inspectors.

5,497 visits were paid to 2,671 cases of Infectious Diseases by the male Inspectors.

LEGAL ACTION.

Statutory Notices served during 1930	...	...	327
Complied with	...	...	256
Not complied with	...	...	51
Unexpired	...	...	0
Works in hand, not completed Dec. 31st			20
			<hr/> 327
Notices not served. Works put in hand	...	...	152
Completed during 1930	...	...	147
In hand, not completed	...	...	5
			<hr/> 152
<hr/>			
From years prior to 1930—			
Notices complied with during 1930	...	...	71
Notices not complied with	...	...	8
Notices not served. Works done during 1930	...	...	1
Notices not served. Works in hand during 1930	...	...	0

It was found necessary to take proceedings against owners for non-compliance with notices served, details of which will be found in "Police Court Proceedings," on pages 298-300.

NOTICES SERVED.

DISTRICTS.

						A	B	C	X	Total.
To remove offensive accumulations	...	...	...	...	...	8	4	4	...	16
„ Animals or abate nuisance from same	...	...	...	...	...	7	1	1	...	9
Ashpits	...	To demolish or repair	...	...	...	...	...	3	...	3
„	...	provide dustbins	...	...	...	467	376	470	...	1313
Drains or	„	cleanse, repair, reconstruct, trap,	...	...	...	104	105	129	...	338
Soil Pipes	„	ventilate, provide or disconnect...	...	...	...	3	1	...	...	4
Sinks	„	remove from inside houses	...	...	...	53	19	67	...	139
Waste pipes	„	provide, repair or renew	...	...	...	2	4	1	...	7
„	„	cleanse, repair, disconnect, trap	...	...	...	...	...	...	...	...
„	„	or provide	...	...	...	...	...	...	...	...
Spouting	„	provide ...	...	...	...	54	50	112	...	216
„	„	cleanse, repair, renew, provide or	...	...	...	...	...	...	...	...
„	„	disconnect from drain	...	...	...	...	...	...	...	...
Houses	...	„	cleanse and limewash cellars or	...	...	5	1	3	...	9
„	„	repair cellar openings	...	...	...	1	...	4	...	5
„	„	cleanse, limewash, re-paper or	...	...	...	13	12	11	...	36
„	„	distemper	...	...	...	2	10	12	...	24
„	„	lay in damp course or make dry	...	...	...	47	28	61	...	136
„	„	prevent overcrowding	...	...	...	126	136	158	...	420
„	„	repair paving of yards or passages...	...	...	...	...	...	...	...	...
„	„	„ roofs, floors, walls, windows,	...	...	...	...	...	...	...	...
„	„	firegrates, &c.	...	...	...	...	...	...	...	...
„	„	ventilate rooms	...	...	...	3	6	1	...	10
Manure	...	„	remove accumulations	...	...	...	...	...	...	...
„	„	provide, cleanse, repair or demolish	...	...	...	...	...	...	...	...
„	„	pits or cesspools	...	...	...	...	...	1	...	1
Privies or	„	„	repair or provide new tubs	...	...	...	1	3	...	4
Tub	„	„	convert to W.C.'s	...	...	...	15	3	...	18
Closets	„	„	demolish	...	...	...	...	...	...	...
Stables	...	„	pave, drain, ventilate or cleanse...	...	...	...	...	...	...	...
Urinals	...	„	provide, repair, reconstruct or	...	...	1	...	...	...	1
„	„	remove	...	...	...	...	...	...	...	...
Water	...	„	close well	...	...	...	...	...	...	...
„	„	fill in disused well or soft water	...	...	...	...	2	11	...	13
„	„	cistern	...	...	...	2	1	8	...	11
„	„	repair pumps, cleanse cisterns	...	...	...	7	1	3	...	11
„	„	provide town's water, or repair	...	...	...	1	3	1	...	5
„	„	service pipes	...	...	...	33	52	55	...	140
W.C.'s	...	„	provide additional	...	...	...	...	1	...	1
„	„	repair fittings	...	...	...	5	5	20	...	30
„	„	lay on flushing water	...	...	...	1	...	11	...	12
„	„	repair, rebuild or cleanse	...	...	...	...	...	...	...	...
Other nuisances or defects not included above	...	„	...	...	...	...	...	...	...	...
Bakchouses	Contraventions	...	...	...	...	...	...	...	29	29
Common Lodging Houses	„	...	...	...	...	...	...	...	98	98
Dairies, Cowsheds and Milkshops	„	...	...	...	...	...	...	...	36	36
Factories and Workshops	„	...	...	...	...	6	1	5	...	12
Houses Let in Lodgings	„	...	...	...	...	...	...	...	88	88
Ice Cream premises	„	...	...	...	...	...	...	...	6	6
Slaughter Houses	„	...	...	...	...	...	...	...	...	...
Offensive Trades	...	...	...	...	...	...	...	...	5	5
Abate Smoke Nuisances	...	...	...	...	...	...	...	...	...	...
Nuisance from Swill Boiling or Burning	Offensive	...	...	...	...	...	...	...	...	...
„	matter	...	...	...	...	...	...	...	...	...
						951	834	1159	262	3206
Smoke Observations	...	...	...	...	...	9	4	...	...	13

NUISANCES ABATED.

DISTRICTS.

	A	B	C	X	Total.
Accumulations (offensive) removed	5	...	5	...	10
Animals ...Removed or nuisances abated	5	3	1	...	9
Ashpits ...Demolished or repaired	10	2	1	...	13
Dustbins provided	824	650	988	...	2462
Drains or Cleansed, repaired, reconstructed, Soil Pipes... trapped, ventilated, provided or disconnected	483	511	464	...	1458
Removed from inside houses	4	...	...	...	4
Sinks ...New sinks provided, repaired or renewed	103	45	92	...	240
Waste Pipes ...Disconnected, cleansed, repaired trapped or provided	131	49	97	...	277
Spouting ...Cleansed, repaired, renewed, pro- vided or disconnected from drain	98	176	311	...	585
Houses ...Cellars cleansed and limewashed or cellar openings repaired	3	6	20	...	29
Cleansed, limewashed or distempered	3	2	5	...	10
Damp-coursed and made dry	37	16	22	...	75
Overerowing prevented	1	2	13	...	16
Paving of yards or passages repaired	243	179	339	...	761
Roofs, floors, walls, windows, fire- grates, &c., repaired	288	292	365	...	945
Rooms ventilated ... ..	...	...	...	...	...
Manure ...Accumulations removed	1	1	1	...	3
Pits or cesspools provided, cleansed, repaired or demolished ... ..	...	...	1	...	1
Privies or Tub Closets...Cleansed, repaired, or new tubs provided ... ..	...	5	5	...	10
Converted to W.C.'s	90	38	41	...	169
Demolished ... ..	...	1	1	...	2
Stables ...Paved, drained or ventilated ... ..	...	...	...	...	...
Urinals ...Provided, repaired reconstructed or removed	1	...	...	...	1
Water ...Wells closed ... ..	...	...	...	...	...
Disused wells filled in... ..	...	...	1	...	1
Rainwater pumps repaired or tanks cleansed or repaired ... ..	...	2	4	...	6
Rainwater cisterns filled in or de- molished, and rainwater pipes disconnected	8	26	55	...	89
Town provided, or service pipes repaired	12	15	3	...	30
W.C.'s ...Additional provided	8	13	7	...	28
Fittings repaired or cleansed	55	96	94	...	245
Flushing water laid on ... ..	...	...	1	...	1
Repaired, rebuilt or cleansed	76	44	25	...	145
Other Nuisances or Defects abated or remedied	...	...	9	...	9
Bakehouses Contraventions ... ..	...	...	...	28	28
Common Lodging Houses ,,	...	...	...	104	104
Dairies, Cowsheds and Milkshops ,,	...	...	...	35	35
Factories and Workshops ,,	6	3	5	...	14
Houses let in Lodgings ,,	...	...	...	99	99
Ice Cream Premises ,,	...	...	...	6	6
Slaughter Houses ,,	...	...	...	...	...
Offensive Trades ... ..	...	...	...	5	5
Smoke Nuisance abated ... ..	...	1	...	...	1
Nuisance from swill boiling or burning offensive matter abated ... ..	...	...	...	...	...
	2495	2178	2976	277	7926
Visits re abatement of Nuisances, &c.	9897	8450	12980	...	31327

Closet Accommodation.

A list is appended of all the classes of sanitary accommodation in the Borough, and it will be noted with pleasure that only 210 premises are fitted with anything other than the water carriage system. It will also be seen the reason why these old insanitary systems still exist, but I trust that in the near future they will be abolished.

SANITARY ACCOMMODATION.
(Approximate Figures.)

At end of year.	Water Closets.	Trough Closets.	Waste Water Closets.	Tub Closets.	Ash Recep- tacles.	Dry Ashpits.	Privies With Ashpits or Cesspools.	Inhabited Houses, etc., according to Rate Book end of 1930.
1930	34,561	273	3	193	36,000	22	17	34,880

During the year 1930, 7 Privies and 162 Tub Closets were converted into Water Closets, of which 151 Tub Closets were done under the Corporation's Assisted Conversion Scheme.

Tub Conversion Scheme.

SECTION 163, DERBY CORPORATION ACT, 1901.

Sub-joined is a statistical report on the progress made with the conversion of tub closets to water closets during 1930 :—

Notices served during 1930	...	...	...	...	3
Number of Tubs dealt with	...	...	...	...	7
Number of Tubs converted during 1930	...	...	...	...	151
Certificates issued by the Chief Sanitary Inspector	...	...	...	...	49
Conversions covered by these Certificates	...	...	...	...	157
Amount contributed by Corporation at £8 per conversion	...	...	...	...	£1,256 0 0
Cost of Conversions as per accounts submitted	...	...	...	...	£2,997 6 7
(including cost of works outside the scope of the Act).					

Total number of tubs converted since the commencement of the Scheme	...	...	...	...	1,525
Total number of Certificates issued by the Chief Sanitary Inspector	...	...	...	...	518
Total number of tubs for which a contribution of £8 has been paid	...	...	...	...	1,475
Total cost to end of 1930 to Corporation...	...	...	...	...	£11,800 0 0
Total cost of conversions as per builders' accounts (including cost of works outside scope of the Act)	...	...	...	...	£26,797 7 9½

Total number of tubs remaining unconverted, 191, of which 136 are held up on account of "Improvement Schemes," while in many other cases the conversions cannot be carried out owing to want of drainage and for other reasons.

Common Lodging Houses.

On register at beginning of year	...	...	...	...	15
Added during the year	...	...	...	...	0
Closed during the year	...	...	...	...	2
On register at end of year	...	...	...	...	13
Number of Rooms registered for sleeping	...	...	...	...	93
Number of Lodgers provided for	...	...	...	...	479
Visits of Inspection	...	...	...	...	731
Notices and cautions given in respect of breaches of the Acts and Bye-laws	...	...	...	...	98
Written Notices served	...	...	...	...	11
Notices and Cautions complied with	...	...	...	...	104

The two houses that were struck off the register at the end of the year were very old indeed and in a decaying state. As it happened, these were the only houses in the town that took in married couples and children, and with their removal no place exists, except the workhouse, where casuals on the road with children can put up for the night. Nevertheless children should *not* be allowed to live in the usual type of common lodging house, and these cases emphasise the necessity of such communal furnished tenements as expressed under the heading “ Houses Let in Lodgings ”

Houses Let in Lodgings.

On Register at beginning of year	...	...	...	33
Added during the year	...	...	...	2
Closed during the year	...	...	...	2
On Register at end of year	...	...	...	33

These houses contain 168 rooms and have accommodation for 361 adults and 52 children.

Visits of Inspection	...	...	1,279
Notices and Cautions given to the landlords and lodgers for various offences under the Bye-laws			88
Notices and Cautions complied with	...	...	99

This class of house, without exception in this town, is utterly out of date, and the need of a large building let off in furnished tenements is urgent. Practically speaking, a six-roomed house is taken by a person who usually “ farms ” it out in this way—the front living room is shut off from the other part of the house, a rickety bed, a few old clothes, an old table, a chair or so in poor repair, and the room is furnished and let at anything round about 7/- per week, and each of the other rooms in the house is let separately in the same way. The stairs of course are dark and gloomy and no one seems responsible for the cleansing of them. The water supply is in the yard and if any washing is done, the water must be carried to the individual apartment and heated in a bucket over a more or less rickety fire place. No amenities exist in any way, and under these conditions people try to live and rear children.

The existing byelaws are so unsuitable for our Houses Let in Lodgings, that if they were enforced all houses would have forthwith to close.

Offensive Trades.

On Register at beginning of year	...	...	...	...	20
Added during the year	...	...	...	...	5
Closed during the year	...	...	...	...	5
On Register at end of year	...	...	...	...	20
Factories	...	...	...	...	8
Workshops	...	...	...	...	12
Inspector's visits	...	..	..	84	
Notices served	...	...	...	5	
Defects remedied	...	...	...	5	

LIST OF OFFENSIVE TRADES IN THE BOROUGH.

Bone Calcining	..	..	..	..	1
Bone Boiling	..	..	..	..	1
Gut Scraping	..	..	..	..	2
Hide and Skin Marts.	..	..	..	..	2
Skin Curing	..	..	..	..	1
Blood Drying	..	..	..	..	1
Soap Boiling	..	..	..	..	1
Tripe Boiling	..	..	..	..	5
Dealers in rags, bones, and skins	..			..	4
Fat melting or extracting				..	2
					—
Total	..			..	20
					—

No byelaws exist for the regulation of these trades. This needs remedying, and at the same time the addition of the trade of Fish Frying should be added to the list.

Factories and Workshops.

The following are the Tables of action taken and work done.

INSPECTIONS.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

PREMISES.	NUMBER OF			
	INSPIC- TIONS.	WRITTEN NOTICES.	VERBAL NOTICES.	PROSE- CUTIONS
Factories (including Factory Laundries)	234	8	17	0
Workshops (including Work- shop Laundries) ..	833	19	5	0
Workplaces (other than Out- Workers' Premises) ...	57	0	0	0
Totals	1124	27	22	0

DEFECTS.

PARTICULARS.	NUMBER OF DEFECTS.			NUMBER OF PROSE- CUTIONS.
	FOUND.	REME- DIED.	RE- FERRED TO H.M. INSP.	
Nuisances under the P.H. Acts				
Want of Cleanliness ...	18	16	...	...
Want of Ventilation ...	1	1	...	...
Overcrowding ... ..	...	...	...	...
Want of drainage of floors	1	...	...	...
Other Nuisances	13	9	...	...
Sanitary Accommodation—				
Insufficient	4	6	...	...
Unsuitable or defective ...	4	2	...	...
Not separate for sexes ...	...	...	...	...
Offences under the F. & W. Act				
Illegal occupation of under- ground bakehouse (S.101)	...	1	1	...
Breach of special Sanitary requirements for Bake- houses (SS. 97 to 100) ...	15	15	...	...
Other offenees ... ..	...	...	...	...
Total	56	50	1	...

Inspections, &c., of Workrooms where women and young persons are employed.

Workrooms on Register at beginning of year	...	...	160
Added during the year	...	...	14
Removed during the year	...	...	77
Workrooms on Register at end of 1930	...	...	97
Visits paid by Female Sanitary Inspector	...	...	654
Verbal Notices given	...	...	1
Notices served under Public Health Acts	...	...	7
Notices complied with	...	...	8

Inspection of Workplaces.

In addition to Inspections of Workrooms where women and young persons are employed, visits, to the number of 57, were paid by the Female Sanitary Inspector, to such workplaces as Cafés, Restaurants, Retail Shops, &c.

Inspection of Out-workers or Home-workers.

Pursuant to Section 107 Factory and Workshop Act, 68 lists of out-workers have been received from the various firms in Derby. Of the out-workers, 55 were engaged in net-mending, 74 in altering, making or finishing wearing apparel, and 10 making surgical bandages. Four lists have been received from other Councils giving 4 names of out-workers employed by firms in their District, who reside in Derby, and 32 lists with 177 names have been forwarded to Councils in whose Districts out-workers employed by Derby firms reside.

During 1930, 350 visits to the homes of these out-workers were made by the Female Sanitary Inspector. As a result of these visits, 4 verbal notices were given with regard to unwholesome premises and one notice was served requiring adequate ventilation of an outworkers' premises.

Registered Workshops.

Workshops	...	...	...	...	...	...	403
Bakehouses	...	...	...	...	...	...	32
Factory Bakehouses	...	...	...	...	...	...	33
Workshops where females and young persons are employed	...	...	...	...	...	...	97
Total number of Workshops on Register	...	...	...	...	...	...	565

Other Matters (Factory and Workshops Act).

Notified to H.M. Inspector of Factories :—

Failure to affix Abstract (S. 133)	...	...	0		
Action taken in matters referred to H.M. Inspector as remediable under the Public Health Acts but not under the Factory & Workshops Act (S. 5)	{	Notified by H.M. Inspector	...	...	8
		Reports sent to H.M. Inspector	...	...	12
Other	...	...	...	...	0
Underground Bakehouses (S. 101) :					
Certificates granted during the year	...	...	...	...	0
In use at the end of the year	...	...	...	...	0

Public Conveniences.

All Public Conveniences were inspected regularly by Members of the Staff, male and female, and were found invariably without complaint.

CANAL BOATS ACT, 1884.

Annual Report for 1930, in accordance with Section 3 of the Canal Boats Act, 1884.

COUNTY BOROUGH OF DERBY.

1.	Inspector and Salary		Chief Inspector and Assistant.			
			No salary allocated.			
	Address		16, Ford Street, Derby.			
2.	Boats inspected	... 69	Visits to Canal	... ..	250	
3.	Infringements of Acts and Regulations :—					
(a)	Registration	... 0	(j)	Provision of water		
(b)	Change of Master	0		vessel	... ..	4
(c)	No Certificate on Board	... .. 0	(k)	Removal of bilge water	... ..	0
(d)	Absence of Marking	0	(l)	Notification of		
(e)	Overcrowding	... 2		infectious disease	... ..	0
(f)	Separation of Sex	1	(m)	Admittance of In-		
(g)	Cleanliness	... 0		spector	... ..	0
(h)	Ventilation	... 0	(n)	Boats found in bad		
(i)	Painting	... .. 1		repair	... ..	1

4.	Legal Proceedings	...	...	...	...	...	None.
5.	Other steps taken	...	...	...	...	...	None.
6.	Cases of Infectious Disease dealt with	...	...	...	...	...	One.
7.	Detention of boats for cleansing and disinfection	...	...	...	...	...	One.
8.	Number of boats on Derby Register at end of year	...	...	...	...	...
	1930	...	...	...	...	...
(a)	Number of boats believed to be in use or available	...	...	...	...	...	5
	Number of boats propelled by motor	...	...	...	...	...	0
(b)	Number of boats that cannot be traced	...	...	...	...	...	8
	Removed from Register	...	...	...	...	...	0
9.	Number of boats registered during 1930 :—	...	...	...	...	...
(a)	Motor propelled	...	...	...	...	...	0
(b)	Horse drawn	...	...	...	...	...	0

SCHOOLS.

All the schools of the Borough were made the subject of special inspection for the purposes of report on their sanitary condition, but whilst it was found that time was too short to have an adequate report on all the schools in every particular, I decided that this year, at all events, a definite and detailed report on the sanitary conveniences should be in my hands, whilst the interior, ventilation, heating and so on would be left for the following year.

The reports that I obtained are very far from satisfactory, a large number of schools were found to have inadequate closet and urinal accommodation, and many of the closets and urinals were in such an insanitary condition and of so obsolete a type that I consider it essential that the whole matter be shortly considered by the Education Committee, and a determined attempt made to remedy this insanitary state of affairs.

WATER SUPPLY.

Mr. T. B. Farrington, Water Engineer, reports as follows :—

Two additional Service Reservoirs have been built as follows :—

	<i>Capacity.</i>	
Littleover Reservoir	...	3,000,000 galls.
Spondon Reservoir	...	500,000 „

and the following mains have been laid in connection with same :—

18"	...	...	...	4,533 yards.
12"	...	...	...	590 ,,
6"	...	...	...	2,570 ,,

In connection with the Housing Sites, the following lengths of main have been laid for the Derby Corporation, County Authorities and private enterprise in the Water Area :—

6"	...	...	...	1,900 yards.
4"	...	...	...	7,300 ,,

The Water Supply has been satisfactory both in quality and quantity.

I also append copy of the last analysis of water made by the Borough Analyst :—

“ The following are the results of analysis, expressed in parts per 100,000, of the three samples of water received from you on the 11th inst., described thus :—

1. (a) As a whole.
2. (b) From the Collecting Tunnel.
3. (c) From the Derwent Valley Board.

					Parts per 100,000.		
					No. 1.	No. 2.	No. 3.
Total solid matter	...	...	...	...	11·0	41·5	6·5
Free and Saline Ammonia	...	...	...	...	0·001	0·0	0·001
Albuminoid Ammonia	...	...	...	...	0·004	0·003	0·005
Nitrogen as Nitrates	...	...	...	...	0·0	0·11	0·0
Chlorine	...	...	...	...	1·2	2·4	1·0
Oxygen absorbed in four hours at							
80° F....	...	...	...	...	0·167	0·048	0·190
Hardness	{	Temporary	...	...	0·43	17·68	0·39
		Permanent	...	...	7·43	14·86	3·51
		Total	...	...	7·86	32·54	3·90
Appearance in 2ft. tube	...	...	...	...	Clear, greenish yellow	Clear, bluish	Clear, greenish yellow
Metals	...	...	...	...	None	None	None

Mineral Analysis :—

Silica	...	...	...	0.45	1.0	0.30
Oxides of Iron and Alumina	...			0.10	0.2	0.10
Lime CaO	...	...	...	2.95	13.85	1.30
Magnesia MgO	...	...	...	0.70	2.63	0.42
Sulphuric Anhydride SO ₃	...			2.35	7.42	1.54

Calculated analysis :—The Acids and Bases may be combined as follows :—

Calcium Carbonate	...	...	4.40	22.6	1.50
Calcium Sulphate...	...	...	1.19	2.92	1.12
Magnesium Sulphate	...	...	2.10	7.89	1.30
Sodium Sulphate	...	...	0.44	0.80	
Sodium Chloride	...	...	1.98	3.96	1.65

Samples 1 and 3.

The analytical results show these samples to be of similar character. They each contain organic matter ; but this is of vegetable origin, possibly derived from peaty material, and there is no indication of the occurrence of pollution. The only difference of any note between these samples is the hardness, which is increased in sample No. 1 by the admixture of the Derwent Valley Water with a small proportion of the Filter Tunnel Water.

As a result of chemical analysis, I am of the opinion that each of these waters is of entirely satisfactory quality for use for drinking and domestic purposes.

Sample No. 2.

The analytical results shew this water to contain only a small portion of organic matter, and there is no indication of the occurrence of pollution.

As a result of chemical analysis, I am of opinion that this water is of satisfactory quality for use for drinking purposes.

The hardness is high, rendering this water undesirable as a supply in the raw state.

Plumbo solvency.

The samples have been tested separately in order to ascertain the extent of their action upon lead. For this purpose I used

Houston's method, which consists of the upward filtration of the water through Lead Shot, under standard conditions.

As a result, I found that neither of the waters possessed the power of attacking Lead under the above conditions. These samples may, therefore, be pronounced to be negatively plumbo-solvent.

Action on other Metals.

I also made tests as to the action of these waters upon Copper and Iron.

Copper.

Pieces of Copper foil were completely immersed in each of the waters at room temperature for a period of 72 hours. Samples were drawn from each at intervals of 24, 48, and 72 hours and tested for Copper in solution. In every case a negative result was obtained, showing that in the cold neither of the waters has a solvent action upon Copper.

Iron.

When pieces of wrought Iron were completely immersed in each of the samples at room temperature for 24 hours, corrosion was visible in every case, Oxide of Iron being deposited as the result of the action of the waters.

The Derwent Valley Water was more active than the others.

Yours faithfully,
(Signed) JOHN WHITE."

Supply.

Number of gallons of water supplied to Derby from				
Public Supply ...	...	...	...	1,660,778,000
Gallons per day per head of population ...	...	...	...	32·34
Percentage of total quantity from the Derwent				
Valley Supply ...	...	...	...	86·36%

Used during the year.

	<i>Gallons.</i>			
Sewer Flushing	2,250,345
Street Watering	1,252,779
Steam Rolling	10,692
Street Swilling (footways)	150,975

Wells.

Two samples of water were submitted for analysis, both from farmsteads.

One was polluted to a very considerable extent with organic matter. Notice was served, the well was closed, and town water laid on.

In the other case there was no indication of any serious pollution, but the enormous amount of hardness, due to the presence of a very large proportion of calcium sulphate, rendered the water highly undesirable as a source of domestic supply. The water main being a great distance away and the expense of laying on a supply being so great as to render this impossible, it was arranged for the supply for household purposes to be discontinued and supplies fetched in churns from the nearest stand pipes.

MILK SUPPLY.

Attention is drawn to the large number of retail Purveyors in the Borough, the majority of whom sell milk in more or less small quantities from small shops, crowded with stores of all descriptions, and which would be impossible to keep in a state of cleanliness to conform to the Regulations issued by the Ministry. For many years the Staff have been visiting these shops several times each year, and nothing much more than the provision of a muslin cover to the milk pail was the outcome of our work. In September last, organised efforts were commenced to enforce the Act of 1922 and the Regulations, and by the end of the year, 81 registered purveyors were brought before the Public Health Committee to show cause why their names should not be struck off the register. Of this number, by the end of the year 26 had enforced removal, and of the other 55 some few were being dealt with at the wishes of the Committee for arrangements to be made, if possible, for the proper sale of milk under special conditions. The remainder received notices, but the time for appeal had not expired at the end of the year.

Dairies, Cowsheds and Milkshops.

Purveyors on Register at beginning of year	...	...	...	387
Added during the year	...	...	...	66
Removed during the year	...	...	...	80
On Register at the end of year	...	...	...	373

COWKEEPERS WITHIN THE BOROUGH.

On Register at beginning of year	...	...	...	14
Added during the year	...	...	...	0
Removed during the year	...	...	...	3
On Register at end of year	...	...	...	11
Inspector's visits	...	...	...	971
Verbal Notices given	...	...	...	31
Written Notices sent	...	...	...	5
Notices complied with	...	...	...	35

REGISTERED PURVEYORS LIVING OUTSIDE THE BOROUGH.

On Register at beginning of year	...	...	...	128
Added during year	...	...	...	5
Removed during year	...	...	...	3
On Register at end of year	...	...	...	130
Visits to Factory Dairies	...	...	...	59
Written Notices served	...	...	...	1
Verbal Notices given	...	...	...	1
Notices complied with	...	...	...	1

One sample of well water taken from a milkshop was found, on analysis, to be unfit for use. A supply of town water was laid on.

Bacteriological Examination of Milk for Tubercle Bacilli.

During the year 91 samples, comprising the milks from one hundred and nineteen farms, situated in the County of Derbyshire, which send milk into the Borough of Derby have been examined for Tuberculosis.

Fifteen of the samples submitted were found to be Tuberculous.

Dr. Ash, Medical Officer of Health to the County, reports that all the farms concerned have been visited and the cattle inspected.

Twelve animals were found to be diseased and were slaughtered. Eight of these were affected with advanced tuberculosis and four animals were only slightly affected. In respect of three farms, all the samples taken were found to be negative. It may be that the affected animals had been disposed of before the cattle were again examined.

Bacterial Count and Clean Milk.

Eighty-one samples of milk have been taken for bacterial count. In the last five months, in no case has the bacterial count per cubic centimetre exceeded 91,000, the counts ranging from 8,000 to that number. Seven previous records contained from 300,000 to over 4,000,000 per cubic centimetre.

There were 19 samples containing *Bacillus Coli*, and the farmers concerned were in the later months communicated with, and in all cases a very great improvement has been shown.

Finding how badly equipped Authorities were to deal drastically with a farmer who supplied dirty milk, I met the local wholesale dairymen, and all but one agreed to insert the following clause in their contracts with the farmers supplying them with milk. The clause runs as follows "4—All the milk shall be delivered perfectly pure and with all its cream; it shall be of good quality and in good condition. Should anything arise that, in the opinion (based on sound bacteriological examination) of the Medical Officer of Health for the County Borough of Derby, renders the milk unfit for human consumption, this agreement shall be suspended and the purchaser shall not be liable to any action for breach of contract in consequence of the suspension of this agreement from the aforementioned cause." This contract not only protects the Dairymen, but gives the Medical Officer of Health definite and final power in the protection of the public from the effects of a dirty milk producer. I wish to thank the Dairymen's Association for the help they have given me in the matter and the way they have met me in my duty.

Milk and Dairies Order, 1926.

For the purpose of this Order, examinations of all cattle within the Borough were carried out during the months of June and December by Mr. J. McClement, M.R.C.V.S.

250 examinations of cattle were made, and, generally speaking, the cattle were found to be in good condition.

Six specimens of milk were examined for tubercle bacilli, with negative results.

Examinations of Milk, etc., made at the County Laboratory during 1930.

Milk for Tuberculosis (Microscopically)	2
Milk for Tuberculosis (Inoculation Test)	86
Milk for Bacterial Count & B. Coli Communis ...	79
Milk for B. Coli Communis	2
Ice Cream for Bacterial Count & B. Coli Communis	1
	—
Total	170
	—

PUBLIC HEALTH (CONDENSED MILK) REGULATIONS, 1923 & 1927.

Seven samples were taken, all of which were correctly labelled, and upon analysis proved to be in accordance with the requirements of the Condensed Milk Regulations, 1923.

PUBLIC HEALTH (DRIED MILK) REGULATIONS, 1923 & 1927.

Three samples were taken during the year and were found to be in accordance with the Regulations.

ARTIFICIAL CREAM ACT, 1929.

So far as can be ascertained, no artificial cream is on sale in Derby.

FERTILIZERS AND FEEDING STUFFS ACT.

During the year 25 samples were examined under this Act consisting of the following materials :—

Barley Meal	...	...	3
„ Mixture	...	...	1
Chicken Meal	...	...	1
Compound Fertiliser	...	...	3
Cotton Cake	...	...	2
Laying Meal	...	...	3
Linseed Cake	...	...	2
Maize Meal	...	...	9
Rice Meal	...	...	1
			—
			25
			—

The whole of the samples were found to be genuine and of satisfactory quality, and to contain no admixture of foreign materials.

FOOD-PREPARING PREMISES.

Number of Pork Butchers' Shops	...	...	...	44
Number of Shops where making up is carried on				30
Number of Visits of Inspections	...	...	...	427
Number of Verbal Notices given and complied with				34

A re-organisation of the Staff having taken place towards the end of the year, operations commenced for the adequate supervision of making-up shops, food stores, food preparation places, etc. This is a very essential matter for the well-being of the inhabitants, and Sec. 72 of the P.H.A., 1925, is being brought into use. The application of this Act is new here, and will have to be delicately applied at the commencement.

ICE CREAM MANUFACTURERS AND DEALERS.

On Register at beginning of year	...	...	...	...	279
Added during the year	...	...	...	...	15
Closed during the year	...	...	...	...	18
On Register at end of year	...	...	...	...	276
Inspector's Visits	...	...	...	...	316
Verbal notices given	...	...	...	...	2
Written notices served	...	...	...	...	4
Notices complied with	...	...	...	...	6

One prosecution of a purveyor was undertaken on the evidence that a youth in his employ was using a dirty wafer-making machine. The case was lost owing to lack of proof of ownership.

The clauses contained in the Derby Corporation Act of 1901 are certainly useful, but do not go far enough with powers to protect the consumers from ice cream made under foul conditions, but until an alteration can be made in the law I intend to utilise the power contained in the local Act, together with Sec. 72 of the P.H.A., 1925, to deal with dirty purveyors of this class of food.

BAKEHOUSES.

Bakehouses in occupation at beginning of year	...	...	29
Empty bakehouses re-occupied	...	...	4
New Bakehouses added during the year	...	...	4
Bakehouses vacated during the year	...	...	4
Bakehouses converted to Factory Bakehouses	...	...	1
No. on register at end of year	...	...	32
Factory Bakehouses in occupation at beginning of year	...	...	31
Factory Bakehouses added during the year	...	...	2
Factory Bakehouses vacated during the year	...	...	0
Factory Bakehouses on register at end of year	...	...	33

DISUSED BAKEHOUSES :—

Unoccupied at beginning of year	...	...	...	56
Vacated during the year	...	...	...	4
Re-occupied during the year	...	...	...	4
Demolished during the year	...	...	...	5
Number unoccupied at end of year	...	...	...	51
Visits paid to occupied Bakehouses	...	...	...	110
,, ,, unoccupied ,,	...	...	...	55
,, ,, Factory ,,	...	...	...	121

SANITARY WORK :—

	Workshops.	Factories.	Total.
Defects found during the year	12	17	29
Defects remedied during the year	13	15	28
Written notices served	...	7	2
Verbal notices given	...	5	15

One underground workshop bakehouse was closed during the year.

MEAT INSPECTION.

During the year 79 carcasses of beef were condemned for the following reasons:—40 tuberclosis, 4 black quarter, 6 Johne's disease, 6 dropsical, 9 injury, 6 septic conditions, 7 milk fever and difficult parturition, and 1 red water.

Thirteen cows were also slaughtered under the Tuberculosis Order, 1925, as suffering from Tuberculosis of the udder and were found on post mortem to be in an advanced state of that disease. Carcasses were totally condemned.

There have also been condemned 15 carcasses of veal and 18 bodies of mutton.

In addition to the above, 31 carcasses of cattle slaughtered under the emergency clauses of the [Meat Regulations, 1924, were found unfit for human food.

The number of Tuberculous cattle was 171 cows, 36 heifers, 2 bullocks and 2 bulls.

In addition eighty-two pigs were found to be Tuberculous, and twelve whole carcasses condemned; in the remainder, the lesions were confined to the head and organs, which were condemned.

CONDITION OF TUBERCULOUS CATTLE:—

Cows—	Prime condition	...	60
	Good „	...	87
	Poor „	...	24
Heifers—	Prime condition	...	21
	Good „	...	10
	Poor „	...	5
Bullocks—	Prime condition	...	2
Bull—	Prime condition	...	2

DISPOSAL OF CONDEMNED MEAT.—During the year the whole of the meat and offals was disposed of for treatment for the recovery of fats, bones and meat, and their preparation for commercial purposes. The remainder of the unsound food was destroyed at the Destructor.

UN SOUND FOOD CONDEMNED.

22 tons	Meat, including Offal.
478	Rabbits.
54	Poultry and Game.
10,795 lbs.	Fish.
336 lbs. and 582 tins.	} Various Foods.
4,750	Eggs.
3,200 lbs.	Fruit and Vegetables.

Slaughter-Houses.

At the end of year 1930 :—

In hands of private holders	...	...	...	...	25
Corporation houses let to private tenants	...	...	...	...	13
Corporation houses used as public	...	...	...	...	2
Corporation houses standing empty	...	...	...	...	2
Corporation houses used as cooling rooms	...	...	...	...	—
Corporation houses used as tripe boiling premises	...	...	...	...	—
Corporation houses used for gut scraping	...	...	...	...	—
Private houses standing empty	...	...	...	...	1
Visits of inspection : 8,620.					

PUBLIC ABATTOIR.—Slaughtering at the Corporation Houses is under the direct control of the Health Department.

FOOD AND DRUGS ACT (ADULTERATION) 1928.

During the year, 280 samples were submitted to the Borough Analyst for examination. 188 were " Official " samples, including 157 samples of milk. The remainder (92) were " Informal " samples. All samples were certified to be genuine.

The following is the summary of the Borough Analyst (Mr. John White, F.I.C.), for the year 1930 :—

<i>Official Samples.</i>			<i>Informal Samples.</i>		
<i>Articles.</i>	<i>Total.</i>	<i>Adult- erated.</i>	<i>Articles.</i>	<i>Total.</i>	<i>Adult- erated.</i>
Butter	12	—	Candied Peel ...	1	—
Margarine	9	—	Cherries (Pre- served) ...	2	—
Milk	157	—	Chicken & Ham Paste ...	1	—
Brandy	3	—	Cocoa	2	—
Rum	3	—	Coffee & Chicory Essence ...	1	—
Whisky	4	—	Condensed Milk	7	—
			Cream	7	—
			Crystallised Fruit	2	—
			Dried Fruit ...	2	—
			Dried Milk ..	3	—
			Elderberry Wine	1	—
			Figs (Preserved)	1	—
			Ginger Wine ...	2	—
			Jam	1	—
			Lard	6	—
			Lemon Syrup ..	1	—
			Lobster Paste ...	2	—
			Margarine ...	3	—
			Orange Squash	2	—
			Potted Meat ..	1	—
			Raisins	3	—
			Salmon & Shrimp Paste ...	1	—
			Sausages	20	—
			Sweets	4	—
			Tea	9	—
	188	—		92	—

The average composition of the 157 samples of milk was as follows :—Non-fatty solids, 8·81 ; Fat, 3·64 ; Total solids, 12·45.

PUBLIC HEALTH (PRESERVATIVES IN FOOD) REGULATIONS, 1925
and 1927.

During the year, 157 samples of milk, 20 samples of sausage, and 36 samples of various other articles of food were examined and found to comply with the regulations. Four samples of sweets were specially examined for arsenic, but all were found to be free from arsenical contamination.

TUBERCULOSIS ORDER.

MR. H. A. WALLACE, Markets Superintendent, reports as follows with regard to the Tuberculosis Order :—

“ During the last year there has been a considerable increase in the number of animals dealt with under this Order.

29 beasts have been dealt with in the market itself, and two have been reported on private premises within the Borough.

Of the 29 in the market, 26 of these were sent into the store market on Fridays, one suffering from Tuberculosis of the udder, five from Tuberculosis with emaciation, and 20 suffering from a chronic cough and showing definite clinical signs of Tuberculosis.

14 of these animals were sent back to the premises from which they came and the Local Authorities in the areas notified. In 12 cases the owners exercised their option and had the animals slaughtered.

In connection with the Fat Stock market held on Tuesdays, three animals were dealt with, two of them suffering from Tuberculosis of the udder and one from chronic cough. Of these, two were sent back to the premises from which they came and one was slaughtered by the owner.

In the case of the two notified as suspected of suffering from Tuberculosis on premises in the Borough, preliminary examination confirmed the suspicion, and they were slaughtered under the Order, and in both cases were suffering from the disease in an advanced form, and the compensation in each case was the minimum allowed under the Order, namely, £2 5s. The valuation before slaughter was in one case £6 and in the second £4.

In 1929 there were only 11 beasts dealt with as suspected animals, one of these being on Tuesdays, and 10 on Fridays, no animals being reported from premises within the Borough.

During the last five years there have been 71 beasts dealt with as suspected animals, 45 of which were sent back to the premises from which they came, and the type of disease was nine suffering from Tuberculosis of the udder, three Tuberculosis with emaciation, and 33 suffering from chronic cough and showing definite clinical signs.

The remaining 26 were slaughtered by the owners, usually at a knacker's slaughterhouse. Seven were suffering from Tuberculosis of the udder, one from Tuberculosis with emaciation, and 18 from chronic cough.

During five years there have been dealt with on private premises within the Borough, nine beasts, the market value of which was £78, and the compensation paid amounted to £25."

MICE AND RATS (DESTRUCTION) ACT, 1919.

MR. H. A. WALLACE (Rat Officer) reports as follows :—

" There has been nothing really special to record during the past year. Steady progress has been made in the work of rat destruction.

Although the Corporation do not undertake the destruction of rats and mice on private premises, any complaints that come from private individuals are investigated and advice given, and usually a little help is rendered on the understanding that the individuals concerned will follow up the advice, if necessary.

Certain Corporation premises are regularly visited each fortnight or three weeks, as the case may be, such as Alvaston Tip, London Road Recreation Ground and Lake, Boundary House and City Hospital, Mental Hospital, Isolation Hospital, Bemrose School, Destructor (Stores Road), Corporation Farm, Sewage Works, Normanton Recreation Ground, Darley Fields, Market Hall, Wholesale Market, Borough Surveyor's Office, Health Office, Town Clerk's Office, the Housing Estates at Osmaston Park Road, Manor Road, and Arlington Road, and the allotments at Warwick Avenue.

In addition to the above, there were 80 different private premises visited during the year, and 40 rats on these private premises were destroyed. Altogether 1,028 rats have been accounted for during

the year ; but this does not represent the number of rats destroyed, because a great deal of poison has been laid down and in respect of which probably very few rats have been found.

We use a preparation of phosphorus, which mummifies the body, and in the whole of the period that we have been dealing with rats we have never had a single complaint of smell from the bodies of rats that have died from the effects of this poison.

In addition to using phosphorus poison, a gassing machine is used, and this is extremely useful in the hedgerows and banks on such premises as the Isolation Hospital, the Sewage Farm and the Corporation Farm, etc.

A great improvement has been effected during the last year at the Alvaston Tip and at the Destructor. It has been the custom for years to leave the sorted-out tins in large heaps. These heaps formed a splendid breeding ground for the rats. These tins are not now allowed to accumulate, and a great improvement has been effected. Although this improvement has not been in operation more than six months, the number of rats killed at the Destructor numbered 154, as against 716 the previous year.

In 1928, in clearing a large accumulation of tins, 280 rats were destroyed from the one heap, and the total this year at the Alvaston Tip only numbers 154.

In addition, during Rat Week a visit was paid to the Alvaston Tip, and no trace of rats was seen. A visit was also paid to the Destructor, and only one rat-hole in use was found.

During Rat Week it is customary to pay special attention to the sewers in the centre of the town, and anything from 50 to 100 lbs. of poison is laid down. Derby, of course, suffers in the way that all old towns do, namely, that a large number of old brick drains remain in the centre. These drains being now unused, form an excellent breeding place—dry and comparatively warm.

During the past few years I think it may be claimed that a great deal of progress has been made. About five years ago there were many complaints of rat infestation right in the centre of the town. When these complaints were followed up, it was found that at the

back of some premises in the Corn Market there were two old cottages that had tumbled down, and the debris had filled the cellars, and this was the breeding place for the centre.

The whole premises were cleared up, the rammel removed, and a great improvement effected, and no serious complaints have been received from that district since."

HOUSING.

With the appearance of a new Housing Act before Parliament, the operations of the 1925 Act came almost to a standstill, for even after the knowledge that the Housing Act of 1930 was placed on the Statute Book, the machinery could not be properly set in motion before the end of the year.

One of the first active steps taken to enforce the Act, was that the Ministry of Health required before December, certain information, (more or less approximate in character), of a five years' programme of the Building Operations, the number of houses that could be demolished, the number of the people that would be displaced, and the number of houses that might be made fit.

This necessitated a great deal of rushed work by the Inspectorial Staff and if there had not been a great amount of stored local knowledge and records in these Offices, compiled through many years of Housing Inspections, it would have been almost impossible to have produced anything like the figures presented to the Public Health Committee.

Herewith is a reprint of the actual resolution passed by the Town Council in December, which was their considered reply to the Ministry, on the report of the Medical Officer of Health.

It runs as follows :—

" 226. That the Council be recommended to furnish the Minister of Health in accordance with the requirement of Section 25 of the Housing Act, 1930, with a statement to the following effect :—

HOUSING ACT, 1930.

*General Statement of Measures Proposed to be taken during the
Five next Succeeding Years for dealing with Housing Conditions
in the Borough.*

The Clearance Areas proposed to be dealt with number twenty-seven, and they are scattered over the Borough; the only improvement Area consists of one belonging to the Original Derby Scheme in the Nuns Street—Bridge Street District but in an amended form.

It is desired to reserve the liberty of converting some of the Clearance Areas into Improvement Areas if it is thought to be more expedient, at a later date.

It is estimated that the number of houses that should be demolished is 1,199, representing 548 in Clearance Areas, 120 in Improvement Area, and 531 being individual unfit houses outside Clearance and Improvement Areas.

It is also estimated that the number of persons to be displaced in connection with the above is 1,206 families consisting of 3,329 adults and 1,248 children under 10 years of age.

It is suggested that 250 houses, approximately, be provided annually for the above purpose.

It is further estimated that the number of houses which can be repaired under Part II. of the Housing Act, 1930, during the next five years, will approach 4,000. This is, of necessity, only an approximate figure and is based on the work of previous years."

Immediately after the passing of that resolution, the re-organised staff, re-commenced to automatically inspect houses under the Housing Consolidated Regulations of 1925 and also produce the necessary information required for dealing with unfit houses, either as areas or individual houses.

Statistics.**Houses erected during the year :—**

(a) Total (including numbers given separately under (b))	...	...	...	...	409
(i.) By the Local Authority	...	...	...	...	251
(ii.) By other Local Authorities	...	...	...	...	—
(iii.) By other Bodies and Persons	...	...	...	...	158
(b) With State Assistance under the Housing Acts—					
(i.) By the Local Authority	...	...	...	...	248
(a) For the purpose of Part ii. of the Act of 1925	...	...	...	...	—
(b) For the purpose of Part iii. of the Act of 1925	...	...	...	...	248
(c) For other purposes	...	...	...	...	—
(ii.) By other bodies or persons	...	...	...	...	—

1. Unfit Dwelling Houses.*Inspection—*

(1) Total number of Dwelling Houses inspected for housing defects (under Public Health or Housing Acts)	2,503
(2) Number of Dwelling Houses which were inspected and recorded under the Housing (Inspection of District) Regulations 1910					531
(3) Number of Dwelling Houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation					4
(4) Number of Dwelling Houses (exclusive of that referred to under the preceding sub-heading) found not to be in all respects reasonably fit for human habitation	...	...	...	...	206

2. Remedy of Defects without service of formal Notices.

Number of defective Dwelling Houses rendered fit in consequence of informal action by the Local Authority or their Officers	...	1,951
---	-----	-------

3. Action under Statutory Powers.

A.—*Proceedings under Section 3 of the Housing Act, 1925.*

(1) Number of Dwelling Houses in respect of which notices were served requiring repairs	...	...	...	...	...	121
(2) Number of Dwelling Houses which were rendered fit :—						
(a) By Owners	...	...	...	...	...	192
(b) By Local Authority in default of Owners	...	...	...	...	...	31
(3) Number of Dwelling Houses in respect of which Closing Orders became operative in pursuance of declarations by Owners of intention to close	...	...	...	...	...	0

B.—*Proceedings under Public Health Acts.*

(1) Number of Dwelling Houses in respect of which notices were served requiring defects to be remedied	...	...	...	...	...	455
(2) Number of Dwelling Houses in which defects were remedied :—						
(a) By Owners	...	...	...	...	...	510
(b) By Local Authority in default of Owners	...	...	...	...	...	24

C.—*Proceedings under Sections 11 and 14 of the Housing Act, 1925.*

(1) Number of representations made with a view to the making of Closing Orders	...	...	...	...	...	4
(2) Number of Dwelling Houses in respect of which Closing Orders were made	...	...	...	...	...	4
(3) Number of Dwelling Houses in respect of which Closing Orders were determined, the Dwelling Houses having been rendered fit	...	...	...	...	...	0

(4) Number of Dwelling Houses in respect of which Demolition Orders were made ...	4
(5) Number of Dwelling Houses demolished in pursuance of Demolition Orders ...	4
4. (A) Number of Houses owned by the Local Authority	4,497
On Weekly Rental	4,307
Being purchased on the instalment system	190
(B) (1) Held under Part III. of the Housing Act, 1925	3,413
(2) Held under Part II. of the Housing Act, 1925	0
(3) Held under Other Powers:—Housing Act, 1919	736
Housing Act, 1923	348
(C) Houses built in the last two years :—	
(1) Held under Part III. of the Housing Act, 1925 :	
Built during 1929	286
„ „ 1930	248
(2) Held under Part II. of the Housing Act, 1925	0
(3) Held under Other Powers	0

Inspections under Housing Acts.

Houses Inspected	531
Houses dealt with	206
Defects found	1,528
Defects remedied (including defects found in previous years)	2,861

The premises detailed under C. in Statistics, are as follows :—

6, 7, 8, 9, Bleach Yard	Demolished.
Wooden Building, back 41, Markeaton Street...	Closing Order.
1 Back 35, 37, Mundy Street	Closing Order.
29, 31, Vale Street	Closing Order.
1, 2, 3, 4, Glovers Yard, Hill Street	Demolition Order.

General Observations as to Housing Conditions.

The standard type of house in Derby is one of six rooms, three on each floor, but there are some thousands of four rooms, or less. These latter, are perhaps a century old, and in the greater number of cases exist in crowded areas and courts, and in the majority of cases

will no doubt be the subject of representations under the Housing Acts. The six-roomed type of house here, the majority of which are not old, when fitted up with all amenities (which most already have) are very suitable under present circumstances.

The prevailing forms of defects in these latter houses are dampness, leaky roofs, defective firegrates, floors, doors and stairs, broken sashcords, leaking spouting, broken plastering, etc.

In obtaining the particulars given by the Medical Officer of Health, and on which the report to the Ministry was based, it was found that a great number of houses were occupied by only one or two persons. The opinion has long been forced upon us that a very small type of house is an essential need—say one of two rooms with offices and all amenities—that would suitably accommodate an aged couple. When the time comes to enforce the removal of families from condemned houses into houses provided by the Corporation, it will be found very wasteful in convenience, building, and money to put at the disposal of perhaps 200 such families, houses of the type at present being erected.

Sufficiency of Supply of Houses.

The following information has been supplied by the Estates Manager of the Borough, J. Pritchard Lovell, Esq.

“ The shortage of houses available at reasonable rents in Derby is very acute, and the following resolution passed at the joint meeting of the Health and Housing Sub-Committees on October 27th, last explains the action to meet the shortage.

‘ . . . that the Council be recommended to furnish the Minister of Health with a statement that in their opinion the housing requirements of the Borough cannot possibly be met within the 5 next succeeding years, and that the minimum number of houses required to be erected for the housing of the working classes during that period was estimated at 7,000.’

The programme arranged is for 1,000 houses to be erected this year and 1,500 in each of the 4 succeeding years.

The Corporation has purchased several large plots of land and there does not appear any difficulty at the moment in finding additional sites if required.

The overcrowding in Corporation houses is considerable.

This, generally speaking, is not due to inability to pay the rents of available houses, but rather to the shortage of the houses."

Overcrowding.

Large numbers of cases, either through complaints, visits through infectious disease, or from the ordinary visits of the Inspectors, of cases of overcrowding were noticed during the year, and very many of a bad character. It was impossible to take action, for one cannot turn these people into the street, and certainly no houses seem available, but I do suggest that my recommendations in certain serious circumstances should have precedence in place on the rota of applicants when it comes to a tenancy for a Corporation house.

A case was taken before the Magistrates for non-compliance with a notice for overcrowding, and the case was adjourned for 28 days so that the parents could put some of their children into lodgings, but after a second appearance at court, and the refusal of the parents to part with any of their children, an order was made to abate the nuisance. This order has never been enforced.

The house was of the usual four room type, *i.e.*, two living rooms and two bedrooms. In the front bedroom of 720 cubic feet, slept father, mother and sons aged 19, 17, 15, 14, respectively, and in the back room of 576 cubic feet slept two females aged 10 and 8 respectively, and three males aged 5, 3½ and 2.

It will be noticed that 16 nuisances from overcrowding were abated. This concerned overcrowding caused by second families being taken as lodgers, and attention was turned to the removal of these lodgers to other larger houses.

Fitness of Houses.

The new Act, in defining a house fit for human habitation, says that regard shall be had, amongst other things, "to the general standard of housing accommodation in the district." For all future purposes, and to emphasize the standard that exists in this district, figures are appreciated. They are a summary of the main items reported year by year since 1920, when operations first began under repair sections of the Housing Acts, and are culled from the Annual Reports since that date. They are as follows :—

Houses made fit in all respects (including all amenities —coppers, sinks, water on sinks, larders, and all repairs)	4,789
Entirely new sinks provided where none existed before...	1,329
Old sinks replaced by new	1,525
Houses damp-coursed	1,369
Roofs, floors, firegrates, stairs, walls, etc., repaired ...	16,683
Wash coppers provided where none existed before ...	820
Wash coppers repaired	877
Larders provided where none existed before	1,516
Water laid on inside houses	1,464

in addition to vast numbers of other repairs and not including the enormous figures detailed as done under the Public Health Acts.

A very small percentage of houses now exist without the usual amenities, and these mostly are in that class of house which are scheduled to be made the subject of representations at some future date.

It is full early to speak of the operations of the new Act, but certainly several very drastic changes have taken place from the old Act. Particularly is this noticeable in the application of Section 17, dealing with repairs. The work of this department ever since 1919 has been concentrated on the strong use of the repair sections of the 1919 and 1925 Acts, and the whole basis of the operations were the splendid suggestions contained in The Ministry of Health's Manual of Unfit Houses and Unhealthy Areas, 1919. With this as the standby, 4,789 houses have been fitted up in all respects fit for human habitation, and have been provided with coppers, sinks in houses, water over sinks, larders, etc., made damp-proof, floors, firegrates, windows, stairs, plastering repaired, and so on. The new Act has other definitions, and further, whereas the appeals were in the past held by the Ministry, the future appeals will be heard by the County Court Judge.

If I may be allowed to express my opinion, after long, close operations under the Housing Acts, it is to the effect that I should have liked to have seen the directions contained in the Manual embodied in an Order from the Ministry.

I should estimate that there are perhaps about 2,000 houses that share closet accommodation and water supply.

The intentions of the new Act in Clearance and Improvement Areas and the demolition of individually unfit houses are apparent. Here let me say that for a number of years the demolition of unfit houses has for all practical purposes been at a standstill. A great number of houses, which through many causes have long been considered unfit for habitation, have been getting into worse condition as time went on. The property being already recognised as unfit, it would have been considered wasteful to spend any money on them at all, and we have only been waiting a suitable time to take the necessary action for demolition.

Let us hope that this Act of 1930 will produce the fruit that the authors intended.

Unhealthy Areas.

No representations were made during the year, and the only action taken was the preparatory one referred to previously of making a list or scheduling certain areas for future action. Preliminary work was, of course, carried out to prepare the ground for these operations.

Details of work done under Repair Sections of the Housing Acts .

No. of Houses Inspected	...	...	...	...	531
No. of Houses dealt with	...	...	...	...	206
No. of Preliminary Notices Served	...	...	...	...	248
DEFECTS FOUND.					
Offensive accumulations	...	...	...	...	—
Animals kept so as to be a nuisance	...	...	...	...	—
Ashpits	...Insufficient	...	...	...	—
Dustbins	...Insufficient	...	...	...	27
Drains or Soil Pipes	Choked, defective, untrapped, unventi- lated, insufficient, not disconnected from sewer, or inside houses	...	...	...	4
Sinks	...None	...	...	...	11
	Defective	...	...	...	52
Waste Pipes	Choked, defective, connected with drain, or untrapped	...	...	...	2
	None	...	...	...	7
Spouting	...Choked, defective, or insufficient	...	...	...	94
	Ventilating drain	...	...	...	—
Houses	...Dirty cellars or defective cellar openings	...	...	...	—
	Flooded or wet cellars	...	...	...	—
	Dirty	...	...	...	2
	Damp	...	...	...	56
	Overcrowded	...	...	...	—
	Defective paving of yards or passages	...	...	...	88
	Defective roofs, floors, walls, windows, firegrates, doors, stairs, plaster, etc.	...	...	...	958
	Insufficient means of ventilation	...	...	...	15
	No washing accommodation	...	...	...	10
	Wash-houses out of repair, roofs, floors, walls, etc.	...	...	...	7
	Wash-coppers out of repair	...	...	...	33
	Insufficient food storage	...	...	...	34
	Insufficient light	...	...	...	—
	Dangerous or defective chimneys	...	...	...	35
Manure	...Offensive Accumulations	...	...	...	—
	Pits, defective, or absence of	...	...	...	—
Privies or Tub closets	} In want of repair or new tubs Insufficient	...	...	...	—
		—
Stables	...Defective paving, defective drains, insuffi- ciently ventilated or dirty	...	...	...	—
Urinals	...Defective, offensive or required	...	...	...	—
Water	...Polluted well water	...	...	...	—
	Disused well or soft water cistern	...	...	...	—
	Defective soft water pumps, offensive or defective soft water cisterns	...	...	...	20
	Insufficient water supply	...	...	...	24
	Defective service pipes or taps	...	...	...	—
W.C.'s	Insufficient number of	...	...	...	—
	Defective fittings	...	...	...	24
	Without flushing apparatus	...	...	...	1
	Dirty or insufficient	...	...	...	22
Outbuildings dealt with	...	...	...	...	—
Other nuisances or defects not included above	...	...	...	...	2
					1528

DEFECTS REMEDIED.					
Accumulations (offensive) removed	...	...	...	...	1
Animals	... Removed, or nuisance abated	...	...	...	—
Ashpits	... Demolished or repaired	...	...	...	—
	Dustbins provided	...	...	...	37
Drains or	Cleansed, repaired, re-constructed, trapped,				
Soil pipes	... ventilated, provided or disconnected	...	...	...	5
	Removed from inside houses	...	...	...	—
Sinks	... New provided	...	...	...	19
	Repaired	...	...	...	1
	Renewed	...	...	...	190
Waste pipes	Disconnected, cleansed, repaired or trapped	...	...	...	16
	Provided	...	...	...	14
Spouting	... Cleansed, repaired, renewed, provided or				
	disconnected from drain	...	...	...	237
Houses	... Cellars cleansed and limewashed, or cellar				
	openings repaired	...	...	...	1
	Cellars made dry	...	...	...	—
	Cleansed, limewashed, re-papored or dis-				
	tempered	...	...	...	—
	Damp-coursed and made dry	...	...	...	93
	Overcrowding prevented	...	...	...	—
	Paving of yards or passages repaired	...	...	...	119
	Roofs, floors, walls, windows, fire-grates,				
	doors, stairs, plaster, etc. repaired	...	...	...	1659
	Rooms ventilated	...	...	...	10
	Provided with washing accommodation	...	...	...	38
	Wash-houses repaired	...	...	...	4
	Wash-coppers repaired	...	...	...	64
	Provided with food stores	...	...	...	151
	Efficient lighting provided	...	...	...	—
	Chimneys re-built or repaired	...	...	...	19
Manure	... Accumulations removed	...	...	...	—
	Pits or cesspools provided, cleansed, re-				
	paired, or demolished	...	...	...	—
Privies or					
Tub closets	... Cleansed, repaired or new tubs provided	...	...	...	—
	Converted to W.C.'s	...	...	...	—
	Demolished	...	...	...	—
Stables	... Paved, drained, ventilated, or cleansed	...	...	...	—
Urinals	... Provided, repaired, reconstructed or re-				
	moved	...	...	...	—
Water	... Wells closed	...	...	...	—
	Disused wells filled in	...	...	...	—
	Rainwater pumps repaired or tanks cleansed				
	or repaired	...	...	...	28
	Rainwater cisterns filled in or demolished				
	and rainwater pipes disconnected	...	...	...	3
	Town water provided over sinks	...	...	...	86
	Service pipes or taps repaired	...	...	...	—
W.C.'s.	Additional provided	...	...	...	—
	Fittings repaired or cleansed	...	...	...	25
	Flushing water laid on	...	...	...	7
	Repaired, rebuilt or cleansed	...	...	...	29
Outbuildings	Complaints removed	...	...	...	5
Other nuisances or defects abated or remedied	...	...	...	...	—
					2861
Houses completed					485

Increase of Rents and Mortgage Interest (Restrictions) Act, 1920.

During the year two certificates were issued, neither of which has been cleared.

Byelaws.—Houses Let in Lodgings. Tents, Vans, Sheds, etc.

Reference is made elsewhere under its particular heading, to the byelaws pertaining to Houses Let in Lodgings.

Regarding Tents, Vans, Sheds, etc., the byelaws are found to be weak, inasmuch that if the site is an insanitary one, or perhaps overcrowded, there is no power given to order removal. The procedure must practically take the lines of enforcing the clauses relating to sanitary accommodation, water supply, etc.

Preliminary notices, although not necessary, were sent in four cases to carry out the requirements of the byelaws, but a reference to the "Police Court Proceedings" will show clearly the line of action taken.

POLICE COURT PROCEEDINGS.

<i>Complaint.</i>	<i>Result.</i>
Houses being without sufficient dustbins.	Fined 2/6.
Do. do.	Bins provided. Order made for costs.
Do. do.	Do. do.
Do. do.	Withdrawn on payment of costs. Bins provided.
House being without sufficient dustbin.	Bin provided. Order made for costs.
Do. do.	Fined 5/-
Do. do.	Do.
Do. do.	Withdrawn. Bin supplied.
Houses being without sufficient dustbins.	Dismissed on payment of costs. Bins supplied.
Do. do.	Bins provided. Order made for costs.
Do. do.	Fined 5/-.
Do. do.	Do.
House being without sufficient dustbin.	Do.
Dampness caused by leaky roof and filletting.	Withdrawn on payment of costs. Work done.
Drain being choked.	Do. do.

<i>Complaint.</i>	<i>Result.</i>
Dampness of house walls.	Order made for work to be done and costs to be paid.
Defective roof and defective plaster of ceiling.	Withdrawn. Work done.
House being overcrowded.	Costs paid.
Dampness of house caused by want of eaves-gutter and downspout at rear.	Order to reduce number of occupants.
A defective leaky washcopper.	Withdrawn on payment of costs. Work done.
Damp walls and defective windows to houses.	Order to repair copper and costs awarded.
Defective plaster of walls and ceilings and a defective bedroom door.	Withdrawn.
House Let in Lodgings being without a sufficient water-closet	Withdrawn on payment of costs. Work done.
Caravan being without sanitary accommodation, water supply and dustbin.	Fined 40/- and work ordered to be done.
	Withdrawn on payment of costs, tenant undertaking that caravan should leave yard not later than 7th May.
	17th June :—
	Fined 10/- (Insufficient sanitary accommodation
	Fined 10/- (Insufficient water supply).
Caravans without sufficient water-closets and without sufficient dustbins.	Fined 20/- on each of two cases.
Caravans without sufficient water-closets and without water supply	Fined 20/-. Summons relating to water supply withdrawn.
Caravans without sufficient sanitary accommodation.	To pay a continuing penalty of 1/- per day until abatement of nuisance.
Defective broken floors in kitchen and scullery of house.	Order for work to be done within 7 days and costs awarded.
Dampness in bedrooms of houses caused by defective roofs.	Order for work to be done forthwith and costs awarded
Foul and offensive old sandstone sink, defective floors in bedroom and living-room, and defective plaster of walls and ceilings of house.	Order for work to be done within 14 days and costs awarded.

<i>Complaint.</i>	<i>Result.</i>
Defective drains.	Adjourned <i>sine die</i> .
Untrapped drain in the cellar, allowing escape of sewer gas into house.	Withdrawn on payment of costs. Work done.
Defective roof, causing dampness to houses.	Withdrawn on payment of costs. Work done.
An offensive old sandstone sink in house.	Do. do.
Defective soft-water pump	Do. do.
Defective floor in living-room of house.	Do. do.
Defective roof, roof-light and plaster to ceiling of attic.	Do. do.
Defective treads to stairs of house.	Do. do.
Defective trap to a drain inlet in channel of highway.	Do. do.
Dampness of house.	Adjourned <i>sine die</i> .
Offensive accumulation of manure and no accommodation for the storage of manure.	Withdrawn. Work done.
Broken ventilating shaft to drains.	Order for work to be done in 7 days and costs awarded.
Defective roof, defective plaster to walls and ceiling of bedroom, and defective bedroom window frame.	Do. do.
Defective flooring of stables.	Order for work to be done in 14 days, and costs awarded.
Offensive manure pit.	Do. do.
No proper supply of water at a slaughterhouse.	Fined £3 or 25 days.
Ice Cream being exposed to infection or contamination without due precautions against contamination of said commodity.	Dismissed. No proof of ownership.

HARRY J. MORGAN,

Chief Sanitary Inspector.

AN INQUIRY
into the
VENTILATION OF CINEMATOGRAPH THEATRES.

INTRODUCTION.

NATURE AND SCOPE OF THE INQUIRY.

MODERN VIEWS BEARING ON VENTILATION.

Carbon dioxide and organic poisons.

Germ spraying.

Coddling.

Kata-thermometer.

CARBON DIOXIDE. STANDARDS.

BACTERIAL IMPURITIES IN the AIR.

METHOD OF INQUIRY.

Reasons for neglecting CO₂ observations.

PRACTICAL USE OF KATA-THERMOMETER.

Importance of Temperature and varying air velocity.

What STANDARD to adopt ?

SUMMARY OF RESULTS OBTAINED.

Provisional standard of 5·0 " cooling power."

VENTILATION.

Movement and change of air.

Exhaust Fans.

Air inlets.

Flushing with fresh air.

Air in Balconies.

Agitator Fans.

WINDOWS.

HEATING AND LIGHTING.

CLEANLINESS AND MEANS OF CLEANSING.

PROJECTION SCREENS.

SUMMARY.

RECOMMENDATIONS.

Thanks and acknowledgments.

*An Inquiry into the Ventilation of Cinematograph Theatres.***Introduction.**

The popularising of the cinematograph for public exhibition has produced a new series of factors of considerable importance to the Public Health.

- I. The Cinema Halls of Derby provide accommodation for over 10,250 people.
- II. The custom of continuous programme demands a supply of fresh air for adequate ventilation on a scale much greater than for ordinary public halls.
- III. The comparative absence of sunlight from the Halls, thereby eliminating one of nature's purifiers.
- IV. The possibility of such congregations of people being a means for the spread of air-borne diseases.
- V. The large number of children who visit these places of amusement.

Nature and Scope of the Inquiry.

This inquiry was undertaken in 1928 on the instructions of the Medical Officer of Health on behalf of the Estates and Improvement Committee, in order to ascertain the conditions of ventilation usually found in Cinema Halls in Derby.

At the same time note was taken of the conditions of physical cleanliness and the means employed to maintain the Halls in an adequate sanitary condition.

The object of this report is not to define good ventilation.

The question of possible eye-strain arising from the use of seats placed in close proximity to the projection screen will be discussed.

Modern Views bearing on Ventilation.

Standards of air supply which have been generally accepted are based on chemical analyses determined 50 years ago, as an indication of "stuffiness", at a period when personal cleanliness and the cleansing of buildings was much less efficient than occurs to-day, and the measure of Carbon Dioxide found in the air was used as an indication of efficient ventilation. Recent investigations show that

the arbitrarily fixed standard of impurity, as determined by chemical analyses, can be greatly modified, and that not so much fresh air need be supplied as was formerly thought to be necessary (3,000 cubic feet of air per hour per person).

In the worst ventilated rooms no change of a chemical character occurs to an extent sufficient to explain the ill-effects observed, whilst it has been fully demonstrated that the really deleterious influences in confined places are heat and moisture, together with lack of air movement.

(In crowded rooms CO_2 is never increased nor O_2 reduced so as to harm the occupants to the least extent. Moreover, after exhaustive experiments by physiologists, proof is not forthcoming of those subtle organic poisons supposed to be exhaled by human beings.)

In actual practice the quantity of air supplied is usually dependent upon (1) the air space available, (2) the efficiency of the means of ventilation.

The standard of air space adopted in the Factory and Workshops Act, 1901, is 250 cubic feet per head; but floor space is more important, as lateral separation of individuals lessens the incidence of respiratory infections.

(It has been proved beyond doubt that certain diseases are air-borne, that persons suffering from or recovering from certain infectious diseases, or even those recently exposed to specific infection may acquire and retain in their respiratory passages the virus of that infection, and that they may be the means of infecting others, by expelling infectious particles into the air in the act of coughing, sneezing, etc.)

Risk of infection occurs in those conditions of crowding where such massive spraying of saliva takes place, in so far as healthy individuals are removed from the conditions of the open air. The breathing of cool air entails greater flow of lymph and blood through the respiratory membrane, by which the surface is kept moist and warm, and adequate secretions wash it and keep up the resistance to infection. If by stagnation the atmosphere lacks adequate cooling and evaporative powers, then the vitality is depressed and infection may take place.)

Such a standard is effective only in so far as the essential factor of *air movement* is supplied. Irregular or too rapid movement of air, playing on exposed surfaces of the skin of heavily-clothed bodies which are moist and warm, leads to local chilling and complaints of 'draughts', and the public is not yet educated sufficiently in the hygiene of moving air, and by unhealthy skin coddling encourages the discomfort attributed to draughts.

(The traditional fear of cold is handed down from parent to child, 'for fear of their catching cold' overclothing prevents proper skin action, and close and overheated homes prevent proper action of the respiratory membrane. To a greater or lesser degree we find, in fact, that the hot-house conditions of life suitable for the bronchitic, for the failing powers of the aged, or for those in the last stages of wasting disease are mistakenly supposed to be suitable for the young and healthy.)

In consequence, the practical ventilation of large buildings which are occupied continuously by crowds of individuals remaining seated and quiescent becomes a problem of the adequate cooling of the body of the individual in such a way that he feels comfortable.

The cooling power of the air producing this beneficial effect depends on its temperature, humidity and velocity.

Older methods of testing by means of wet and dry bulb thermometers indicated the *results* of change only, whereas modern research has developed an entirely new outlook by the application of instrumental recording of the *rate* of change of state in the air, taken at the temperature of the human body.

(The thermometer is a static instrument, whereas the body is dynamic, producing heat which must be lost at an equal rate to keep the body temperature normal.)

The rate of heat loss of the skin determining the feelings of comfort or otherwise of the individual, has been compared with the readings obtained by the *Kata-thermometer*, used with dry bulb to indicate the loss of heat by radiation and convection, and with a wet bulb to indicate the additional cooling by evaporation.

(Elaborate investigations have been made on heat production or metabolism of the body during rest or work, in the open air, in

sanatoria, or in closed rooms, in various industrial employ, and with the body clothed or naked—and compared with the cooling power of the atmosphere to which the subject's body was exposed by means of this physical instrument. Under such varied conditions, it has been established that where the subjective sensations of the individual were pleasureable, the objective readings of the instrument indicated certain ranges of cooling power of the atmosphere, and *vice-versa*: where tests of industrial efficiency or otherwise could be obtained, similar readings of the instrument were recorded.)

Where the temperature remains normal and the conditions are those of a sedentary community as obtains in a Cinema, the Dry Kata reading is quite sufficient an indicator of comfort for all practical purposes.

If the air movement is sufficient in velocity for the ventilation of the skin of the clothed body, it will be adequate at the same time for the effective dispersal of microbes exhaled by carriers of catarrhal diseases.

If air movement is inadequate, 'stiffness' will be produced; a combination of sensations indicating exhalations from the skin, boots and clothing, of those who take least care of the person, the temperature of the air will be raised, the relative humidity of the air will be increased from the water vapour exhaled by lungs and skin, and this warm, stagnant, moisture-laden air hindering proper evaporation from the body and the proper carrying away of heat and impurities, will finally produce symptoms that would seem to be those resulting from heat retention in the body, and not from any excess of Carbon Dioxide in the air breathed.

Carbon Dioxide.

The importance of CO₂ added to the air of a building by the exhalations of its occupants arises solely from the fact that it is an index of the conditions which are prejudicial to health and comfort.

(The average amount of CO₂ added to the air by an individual at rest may be taken as 0.6 cubic feet per hour, or, if at work, as 1.0 cubic feet. If ventilation is very imperfect there would be a steady addition of CO₂ to the amount contained in the air, in

proportion to the number present and the total volume of air in the building. For practical purposes the cubic feet per head must be taken, but it is most probable that the air under the roof would not be the same as the air in close proximity to the sitters.

If a building were full to capacity and 120 cubic feet of air space per person (a fair figure and representative of a good Cinema) the atmosphere would be vitiated by 0.6 in 120 cubic feet, or by 50 volumes per 10,000, and making allowance for the average amount of CO_2 in the air, an analysis would give 54 vols. at the end of one hour, 104 vols. at the end of two hours, and so on.

Some diffusion of fresh air taking place at all times would modify the result, and, supposing the air to be changed *once in an hour*, at the end of the first hour there would be 29 vols. of CO_2 present (0.6 in 240 cubic feet + 4 vols. per 10,000). During the second hour of further vitiation and infiltration at the same rate, the result at the end of a second hour would be :—120 cubic feet of fresh air added, so diluting the CO_2 to 16.5 vols. + 0.6 cubic feet to the 240 cubic feet available, or 41.5 vols. in the mixed air. At the end of a third hour 47.75 vols. of CO_2 per 10,000 would be found, and so on. Similarly, if the atmosphere were changed *three times an hour* at the end of the first hour there would be 20.66 vols. of CO_2 present ; at the end of the second hour, 26.33 vols ; at the end of the third hour, 28 vols. would be present. Should the atmosphere be changed four times an hour, the CO_2 present would amount to 14 vols. at the end of an hour, etc.)

(No consideration has been taken of any additional vitiation by the products of consumption of gas, etc.)

If, therefore, ventilation has to be controlled by air analysis, it is important to know how far the result is affected by the time during which the building has been in continuous occupation, and, where the cubic space is small, as in Cinemas, or the ventilation is very bad, *the degree of impurity of the air will depend NOT on the air space but on the volume of fresh air introduced.*

It is only when CO_2 concentrations of 3 or 4 per cent. are breathed that respirations become noticeably increased, and this is the direct effect of the CO_2 , and not due to any lack of oxygen, which will remain ample for efficient oxygenation of the blood.

Standards.

De Chammont's old standard of a CO_2 respiratory impurity of 2 vols. per 10,000 is unnecessary, and unattainable for practical and financial reasons in large crowded buildings.

Various standards of ventilation in terms of CO_2 have been proposed for Schools, Factories, etc., and the only legal standard is that enforced by the Factory Act, 1901, *viz* :—

“a maximum of 12 vols. per 10,000 where electrically lighted, and a maximum of 20 vols. where gas or oil is used.”

For Cinemas, some Local Authorities have adopted a standard of 16, where electrically lighted, as a mean between the two figures above, and to cover the provision of safety gas lights, taking into consideration the large number of people per unit of space. Other Authorities have suggested 20 vols. as a maximum.

But the Factory Regulations are based on a minimum of 250 cubic feet of air space per person, and, with the addition of 1 cubic foot of CO_2 per hour from breathing under active working conditions, make it necessary to change the air 5 times per hour—allowing 1,250 cubic feet of fresh air per person per hour—to maintain a standard of 12 vols. per 10,000.

No regulations are in force as far as our knowledge goes, for deciding what cubic space shall be allowed per person in a Cinema, and the changing of the air 5 times per hour would require the installation of some form of mechanical extraction, over and above natural ventilation methods.

The cubic space in Cinemas is determined more by the height of the ceiling than by the floor area, and varied between 106 and 189 cubic feet in the Houses under consideration. While the larger cubic space affords no guarantee of the purity of the air PER SE, it is an important factor when expressing ventilation in terms of the number of times the air is changed per hour.

For example, if control were based on the CO_2 content of the air, in the case where 60 cubic feet per person were allowed, a change of 10 times per hour would still leave the CO_2 record rather high.

The regulations which were in force in Sydney, N.S.W. (1926) required 8 changes per hour in Theatres, etc., irrespective of the number of cubic feet per person. Climatic conditions are different: in many of these buildings plenum ventilation provides a good proportion of the air change.

Observations made in Birmingham, based on CO² analyses of air and bearing in mind the practical problems involved, led to the suggestion that at least 120 cubic feet per person should be allowed, and that the total seating capacity of Cinema Theatres should be based on this measurement.

Bacterial Impurities in the Air.

The fear that the assembly of large numbers of people in public buildings would lead to the spread of disease, has led to numerous investigations of the type and kind of bacteria present in the air.

The methods of testing comprise the filtration of a measured volume of air through cotton plugs placed in the inlet tube of a special apparatus, followed by the cultivation of the organisms found, attempts to count the number of colonies obtained and their separation into species. According to expert bacteriologists such methods are very difficult and give variable and unsatisfactory results. Most of the organisms found in the floating dust are harmless; those which are specifically disease-producing are either difficult or impossible to isolate, and where such work has been attempted at great cost of time, labour and material, nothing of real value has been achieved.

The healthy respiratory membrane is able to deal with and destroy most of the germs which may be inhaled, and those which may be diffused in the immediate vicinity of a sufferer or 'carrier' of infection are not likely to be found in a random sample of the air in a Cinema.

Method of Inquiry.

To further this inquiry each Cinema was first visited in the morning in order to establish contact with the Management, and to get as complete a survey as possible of structural details by a daylight view, also to observe the methods of cleaning.

Information on the following points was obtained :—

PROGRAMME.	Hours of—continuous from—
SEATING.	Type and number.
LIGHTING.	Type—presence of windows—daylight admission.
HEATING	Type of radiator—position to air vents.
VENTILATION.	General—inlets and outlets in detail—accessory air inlets, exit doors, etc.
FANS.	Principle and dimensions—number—accessibility—who controls.
CLEANING.	Methods—dry or wet—use of disinfectant—when done.
PROJECTION SCREEN.	Angle and surface—distance from nearest seat—angle to side seats.

Visits for assessing the conditions obtaining during the continuous programme on popular nights have been made (*a*) during the warm summer months, often when the weather was sultry, and (*b*) during the winter, occasionally when very cold. A comparison was thus established between the conditions found with a moderately high atmospheric temperature, and those obtaining when the building was artificially heated.

At each visit, the approximate number present in different parts of the hall was noted, and information obtained as to the number which had occupied the hall, and the relative degree of *comfort* as indicated by the senses, was recorded.

Certain tests were made to determine the efficiency of the ventilation in those parts of the building, which, by reason of construction, would be most difficult to ventilate adequately.

It was decided at the outset to neglect any observations on the CO₂ present in the air, which, in the opinion of the writer, are of minor importance, as already discussed.

There also are practical reasons for this abstention; the old (Pettenkoffer's) method of air sampling requires the introduction of bulky bottles and would immediately draw great attention to the operator, and might become a nuisance to the management; one

or at most two samples could be obtained each night. The Haldane method of analysis of small samples of air, requires special apparatus and the manipulation of small bulks of air requires considerable skill and practice for the determination, even approximately, of the vols. per 10,000 of CO_2 present—a large percentage of error is possible.

When obtained, by whatever means, the volume of CO_2 present at a given moment is only a static observation, somewhat isolated from the problem of ventilation as a whole. Its value would be of importance when taken in a full house, badly ventilated, and which had been in continuous occupation for 2 or 3 hours, but to a much less degree if the building were only half or three-quarters occupied.

The use of the **Kata-thermometer** in an investigation of this character, as far as the writer has been able to ascertain, has not been reported in Great Britain.

Not that this would imply that the instrument is inadequate ; it is used regularly in tests of ventilation in such industrial conditions as obtain in artificially heated and moistened weaving sheds, and is being used more and more by special workers for the Industrial Research Board.

Preliminary investigations on lines similar to those to be reported in this survey were made by the Medical Officer of Health in Johannesburg (S. A.) in 1921, and were considered to be so satisfactory that it was recommended for general use, and that a definite Kata standard be adopted in the Theatres and Cinema Halls of that city. More recently, similar work has been done in Sydney (Australia) and standards of Kata readings proposed both for Cinemas and Factories.

The value of the instrument in theory has been outlined ; the following will give an indication of its practical application.

Observations by means of the Kata-thermometer.

The Kata-thermometer invented by Professor Leonard Hill, F.R.S., is a large bulb alcohol thermometer having the column continued into a small terminal safety chamber and the stem marked to record temperatures of 95°F. and 100°F.

When the bulb is plunged into hot water, the alcohol expands until it fills the stem and begins to occupy the top chamber. Suspended in air, after wiping the surface dry, the thermometer cools down as heat passes away by radiation and convection. If the bulb is covered with a fine-meshed cotton sleeve, which remains wet, it will cool down more rapidly and include a record of the heat lost by evaporation. The rate of cooling depends upon the velocity of air in the neighbourhood.

The time interval during which cooling takes place can be observed accurately by means of a stop-watch.

The arithmetical mean of 3 or 5 readings is required for accuracy, neglecting the first reading. If the cooling bulb is taken to represent the body surface, the time interval which is necessary for cooling from the higher to the lower temperature, as noted by the descent of the column between the two marks, corresponds more or less to the action of cool air on the skin.

The total heat loss per square centimetre of bulb surface, while the Kata cools from 100° F. to 95° F. is determined for each instrument in millicalories, and this factor is marked on the thermometer.

For comparative purposes the *rate of cooling* is required, and is obtained by division of the arithmetical mean in seconds into the 'factor', and so recorded as the "cooling power" *i.e.*, the rate of heat loss per square centimetre per second.

In practice, a thermos flask of hot water, a cloth for wiping the bulb, a stop-watch and a pocket electric torch furnish the means of taking observations. The outfit can be manipulated in the half-light of a Cinema, in any part of the building, with the minimum of obstruction and with little display to draw the attention of the spectators.

The quietness and unostentatious character of these observations is greatly appreciated by Managers, and on the methods and value of the readings being explained, many Managers have become interested in the comparative records.

At the time the readings are taken, the subjective feeling of the atmosphere is recorded. For practical comparison I have used

Winslow's scale in five terms:—cold, cool, comfortable, warm, close; relying on my own sensations as a member of the audience as to the conditions found in any part of the building.

For greater accuracy of comparison, should continuous records of the "cooling power" of the air in any one place, or part of a building, be required, it would be necessary to determine the "cooling power" of the air immediately outside at about the same time; it follows that conditions must feel different to one's skin on a thundery night, sultry and heavy, compared with those felt during a keen frosty wind.

An external observation is not often required under ordinary weather conditions, unless a Cinema gives an impression of really inefficient ventilation.

The "cooling power" of the air, as indicated by the Dry-Kata, varies with the temperature; in the cool open air the column will rapidly fall, whereas at high temperatures, such as might occur in a large crowded building in summer, the rate of cooling is much less. Thus, to reach the same "cooling power" under conditions of higher temperature, the velocity of air impinging on the bulb must be greater. In other words the instrument can be used to determine wind velocity.

If we can arrive at a 'standard' indicating adequate ventilation, we thus consolidate the balance between the factors of temperature and air movement.

Temperature.

This factor of temperature must therefore be considered and has been most easily brought into line in the byelaws suggested for the control of Theatres and Cinema Halls in Johannesburg, *viz* :—

“ provided that in no case shall the Dry-Kata reading indoors be required to be higher than 1·5 below that obtained in the open air immediately outside the house ”

For the most desirable conditions in our climate an indoor temperature of 59° F.—65° F. is usually accepted.

It may happen that a building may become warmer than this after the blazing sunshine of a hot summer day. In hotter climates the use of the Kata must be controlled by a reading of the air

temperature. In New South Wales, tentative standards for use in industry take count of both temperature and air velocity, and a suitable Kata reading implies an adequate velocity of air movement for efficient ventilation, *e.g.*,

70° F.	“ cooling power ”	5	air movement	19	feet per min.
75° F.	„	4.5	„	31.6	„
80° F.	„	3.8	„	51.7	„
etc., etc.					

The practice of hanging a thermometer on the back wall of the auditorium and of the balcony is therefore desirable in order to control the conditions in Cinemas.

Addendum.

“ At the time of writing this report, information requested from Australia was not to hand, but is now available in the very valuable “ Studies in Industrial Hygiene, No. 10 ”, a Report to the Director-General of Public Health, New South Wales, by Dr. Charles Badham, Medical Officer of Industrial Hygiene, and co-workers, made in 1926.

Dr. Badham, as a result of extensive researches and many hundreds of observations, using every available method of reporting on the conditions of ventilation in the Sydney Cinemas, recommends that the regulations should provide for :—

“ An air supply per person as a very necessary part of regulations governing theatre ventilation, to reduce the danger of respiratory microbial infection, and to control temperature and humidity.”

“ An air movement according to a special curve showing the air movements required to produce comfort between the temperatures of 60° and 80° F., at an absolute humidity of 5 grains per cubic foot. The air movement to be procured by electric fans, etc.

“ An air supply according to the outside dry-bulb temperature. When the outside temperature is below 55° F., not less than 15 cubic feet per person per minute ; when the outside temperature is between 55° and 65° F., not less than 20 cubic feet per person per minute, and when the outside

temperature is above 65° F. not less than 30 cubic feet per person per minute. The air supply to be produced by natural and/or other means of ventilation.”

“ The Dry Kata reading should not be less than 6·1 at 61° F. and not less than 4·8 at 70° F.” ”

What ‘ Standard ’ to adopt ?

The wider applications of the Kata-thermometer to ventilation in special processes in industry, based on exhaustive researches, led to the general adoption of 6·0 as an attainable standard for Dry readings. *This figure can be obtained* where special means of exhaust ventilation are adopted and where buildings are designed with adequate and properly placed air inlets.

It must be remembered that such a standard is applied where workers are hard at work, producing much body heat, and is not so essential if they are sitting or at rest.

The Cinema hall is a much more difficult proposition as the air inlets are variable and are controlled in part by the ingress and egress of the audiences, also variable ; no open windows are possible save such as can be properly screened, and many Cinemas do not possess windows.

Under these circumstances, a standard of five Dry-Kata can be accepted as more likely of attainment.

Preliminary investigation in 1921 in Johannesburg, using the comparison of dry and wet bulb thermometer records, dry and wet Kata readings, and analysis of air for CO₂, led to the conclusion that :—

“ in South Africa, at any rate, a CO₂ standard is entirely unsatisfactory as a test of efficient and comfortable ventilation.”

Standards of temperature, relative humidity and air velocity as adopted in New York, require separate measurements, whereas

“ the combined effect of these variable factors can be accurately and easily gauged by the Kata-thermometer, and a Dry reading of not less than 5 indicates a reasonably good condition.”

It will be noted from the table of results obtained in Derby during 1928 and 1929, from observations made under differing conditions of outside climate and air movement, greatly differing

sizes of audience and therefore of air vitiation, and widely differing types of control of inlet ventilation, with the general application of exhaust fans as the chief controlling factor to ensure air movement, that such a standard is desirable and can be attained in most of the Derby Cinemas, under present conditions.

In order to avoid any bias the personal estimate of comfort was made before any readings were obtained. With one exception, if the conditions were assessed as 'comfortable', the cooling power of the air, as estimated by dry Kata, was 5.0 or over.

The worst readings obtained were 3.53 in the summer of 1928 and 4.3 in the winter of 1929—both in the worst ventilated portions of Cinemas, packed continuously on popular nights, and indicating that ventilation was inadequate in that part of the house at the time. The best readings were 6.3 in summer, approximating to the conditions of the open-air at the same time, and 6.5 in winter, when conditions were warm and comfortable.

In these 45 records, the minimum of 5 was obtained or passed in 14 out of 16 observations in winter, and 13 times in 28 observations in summer, a Dry-Kata reading of 4.6 or more being obtained in 23 of the latter.

VENTILATION.

Movement and Change of Air.

The temperature of the air expired by man is about 80° F. and with heating it expands, becomes lighter, and tends to rise to the roof, being replaced by cooler air entering the room.

The larger the number of persons present, the greater this assistance to upward ventilation. Such air will be chilled against the walls and tend downwards again, a further aid to air movement, and, with ceiling grids conducting to a false roof or to air vents, there will be a steady upward draught, aided by wind perflation through the louvres of any air shaft present in the roof.

This natural form of ventilation is quite unsatisfactory in a large building without accessory means for driving out the warm vitiated air, and becomes more so as the outside temperature approximates to that of the air inside the building in summer. (One Hall which is licensed for occasional use as a Cinema depends entirely on natural ventilation.)

In properly designed buildings, natural ventilation is now replaced by artificial means for sucking out vitiated air, and the use of electrically driven exhaust fans provides an adequate method of removing the products of respiration and combustion. Fans are generally placed in the false roof, for accessibility, and are so arranged that a current of air from the ceiling grids is constantly moving outwards, in some cases through the end wall, in others, through ducts leading to the ventilating shafts in the roof.

By the use of such fans, if of sufficient number and diameter, brought constantly into action, there is no difficulty in removing vitiated air. The rapid removal of tobacco smoke from the atmosphere when fans are turned on provides ocular evidence of their value.

Working of Exhaust Fans in Derby Cinemas.

Each theatre is fitted with exhaust fans, which vary in number and diameter, also in position.

No fans were found to be out of order.

In some cases they are controlled from the operator's box, in others, from separate switches downstairs, and the employment of the fans depends on the discretion of the management.

Fans are not always brought into action during afternoon shows, and there is even yet a tendency to consider the clearness of the atmosphere from tobacco smoke as the chief objective.

In one case a clock face indicator, placed by the side of the screen, is illuminated, and reads " Fans now working " and is, presumably, in circuit with the control switches of the fans.

The provision of a red light or a similar indicator, *in circuit* with the fans, would be a very desirable method of control in all cases.

Air Inlets.

The provision of fresh air and the desideratum of at least four complete renewals of air per hour is a much more difficult problem.

In reviewing the general planning of these Cinemas so that they may be licensed as " provided with satisfactory means of ven-

tilation", one is forced to the conclusion that the basal fact has not always been taken adequately into consideration, *viz* :— the building may be occupied by a full complement of people continuously for as long as eight hours. Provision which would be adequate in an Assembly Hall is likely to fall short under the special circumstances.

Too much reliance is placed on the exhaust fans for the conquest of all difficulties, and on the presence of the various exits which must be provided for safety in case of fire, whilst the provision of permanent openings for the admission of air varies greatly in number, position and superficial area, or may be entirely absent.

Air enters in some cases through grids placed in the side walls, either high up or at knee level behind hot water radiators with or without means of closure. Others rely on windows, which can be partially opened, or are provided with hopper tops: others again on grids near the top of the stage or moveable doors behind the projection screen, to be opened at discretion.

There is a noticeable absence of perforated bricks, Tobin's tubes, Sherringham valves and other simple forms of permanent opening.

A review of the conditions in any one place shows that the windows may be closed; moveable doors, being out of sight, may be kept shut; the exit doors may be kept curtained, and some of them never used; these doors may lead into passages instead of into the open air, and little perflation of air may be possible in such passages. The whole scheme of maintaining adequate ventilation becomes a matter of chance, and depends on the control of a busy management. As a matter of experience the 'closer' the conditions in a theatre, the more those sitting near the doors resent their being open for fear of chilling, hence one cannot place great reliance on any of the visible air channels being opened and kept open for even short periods.

The conditions obtaining could be still further improved by due care, in many cases, within the means at the disposal of the management, but in others, further provision of permanent inlets is necessary.

Flushing with Fresh Air.

The hours during which pictures are shown vary ; some Cinemas are in continuous action from 1.30 p.m. or 2.30 p.m. until 10.30 p.m. ; others may open at 5.30 p.m. and provide matinees on certain days only.

As pointed out previously, in a building in continuous occupation with a relatively small cubic space per person, the degree of impurity of the air depends on the volume of fresh air introduced, and when the rate of exchange is slow the amount of measurable impurity, the CO_2 , becomes worse at the end of each hour, so that under conditions of poor or inadequate air entry, conditions will become steadily worse and towards the end of the evening may be found to be bad. Such conditions reveal themselves to the senses as to be described as close or stuffy, and air movement is not very perceptible.

Given that the fans may or may not be put into action at the beginning of the performance, or may be shut off if the numbers present are small, and that the shows are of a continuous character, it is desirable that there should be occasional *flushing* with fresh air, at each repetition of the pictures, by the free opening of all doors and windows for a brief interval. Where this is done, the atmosphere is rapidly freshened, and the Kata reading becomes higher.

Air in Balconies.

In all Derby Cinemas save two, accommodation is provided on balconies in addition to the floor level, the length of the balcony being limited, and the height to the ceiling is generally adequate. Structurally, some of these balconies provide *dead corners*, and there is a tendency for vitiated air to accumualte at the back. Conditions at the front of the balcony are as comfortable as in the body of the hall.

In two houses, separate air exits furnished with small exhaust fans are placed near the back corner on the side walls and, when in action, provide for efficient ventilation.

Air entry from balcony vestibules can occur in those houses provided with windows to open in the vestibule, but in others,

with heavily curtained doors approached from unventilated stair-cases artificially illuminated, the air entry is inadequate.

Where air tends to accumulate under the balcony, a ceiling grid conducting to a separate exhaust duct is provided in some cases.

In general terms the conditions at the back of the balconies on crowded nights are less satisfactory than the bodies of Cinemas, as indicated by the Kata-thermometer readings, and as these contain the most expensive seats, it behoves the respective managements to watch carefully the ventilation and comfort.

Agitator Fans.

The function of this type of fan is to set the air in motion locally. They do not assist the ventilation in the ordinary sense and might be looked upon as producing a false sense of security, if the CO₂ content only of the air were considered. But, with our modern views of the need of air movement on the skin to aid skin evaporation and the value of steadily moving air in comparison with stagnant air, quite apart from any questions of its Carbon Dioxide—these are of real value.

They are essential in all offices, dining rooms, public rooms, etc. in warmer countries, and have a distinct place in modern schemes of comfort. A few small fans of this type are to be found in the halls in question, but in general they are badly placed. The further provision of such fans of adequate size and not revolving too quickly would be an advantage in and under the balconies.

Windows.

Sunlight, with its known purifying effect, should not be excluded from halls where large numbers of people congregate, and the full use of windows, when present, unobstructed by curtains, and kept open during and after cleaning operations has great value.

Windows are provided in all save four halls, and are kept screened by curtains during exhibitions. In one case, the windows being circular, require to be closed by discs, and in consequence they cannot easily be used for ventilation purposes save during the morning.

There is adequate lighting during the day in 5 Cinemas.

Heating and Lighting.

Electric lighting is used throughout.

Hot water circulating pipes or radiators are in general use ; the radiators arranged in series along the side walls, often cover an air-inlet. Where this has not been done it would appear that structural reasons have been the obstacle.

As shown by the Kata readings, conditions are more satisfactory in winter than in summer, so that no fault can be found with the heating.

Gas radiators, supposed to provide complete consumption, and with no fume outlet through the wall, are installed in the balcony of one cinema. There is no smell of gas, no sense of stuffiness according to the Management (I detected none at one inspection) and whilst aiding air movement, they will not add greatly to the Carbon Dioxide. Such a method of heating is not desirable.

Cleanliness and Means of Cleansing.

From the point of view of control of deleterious dust the methods adopted are satisfactory in nearly all cases, and great pains seem to be taken to keep floors and seats clean.

Impregnated shavings (‘ Kildust ’) are distributed prior to sweeping up, and a cresol disinfectant is sprinkled or used in washing down in most places ; upholstered seats, carpets, etc., are generally vacuum cleaned. In only one case was considerable dust noticed from dry sweepings.

The general adoption of these methods of cleanliness is to be desired, and those Managements which maintain a rigid control of all dust by the use of ‘ Kildust ’ and disinfectants are to be congratulated.

Projection Screens.

In nearly every case the screen is placed at a slight angle so as to accommodate to the line of sight from all parts.

The clearness of modern pictures, and their freedom from flicker, is very satisfactory.

The position of the screen with regard to the front rows of the cheapest seats provides certain points for discussion. In two houses the centre of the screen is distant from the head of an observer on the front seat at 15 feet, in four cases, at 16 feet, and the best are placed 22 feet away. The angle of incidence in the line of vision from the side seats in the front row is often very acute, as the alignment of seating is made parallel with the screen ; this angle may be less than 45° .

It is a matter of common observation that these front seats are occupied by children in considerable numbers, and the question of eye-strain has to be considered. It is very fatiguing for an adult to look upwards for long at a brightly illuminated picture slightly out of focus, and the position of the child is worse, as regards the upward angle of vision.

Sir John Herbert Parsons, F.R.S., a leading ophthalmologist, reports on this matter : " Probably the worst source of fatigue is due to the screen being placed too high, or the front seats too close to the screen. This necessitates continually looking upwards, whilst at the same time converging. This particular muscular effort is the most tiring of all the eye movements. Very lateral view of the screen is also to be avoided, especially near the front. It causes distortion of the figure of the picture, which also exhibits a mechanical jerkiness of movement." My own experience confirms the above.

There is no limit of distance prescribed for the distance of eye from the screen, but 15 feet seems to be too near, and the effort to focus a large picture when viewed at an angle is likely to lead to eye-strain.

SUMMARY.

Upwards of 10,000 people can be accommodated in the ten halls of Derby which are licensed for regular Cinematograph exhibitions. The programmes are continuous, and it may be accepted that more than 20,000 people will attend these spectacles on Saturday nights.

In these halls, the superficies of floor space allowed per person varies from 3·8 to 6·9 square feet. The minimum air space allowed per person (obstructions excluded) varies from 57 to 189 cubic feet.

All, save one, approximate fairly to 120 cubic feet per head, which figure is recognised as a good standard; three cinemas are well above this standard.

Standards of air supply based on analysis of Carbon Dioxide in the air are considered to be inadequate and misleading.

The Kata thermometer, used with a Dry Bulb, provides a suitable means for determining the "comfort" conditions in a crowded hall, *i.e.*, sufficiency of air change at suitable velocity, described as the "cooling power" of the air.

Readings taken with this instrument enable one to determine whether the ventilation is satisfactory at the time of observation. The use of this instrument is simple in practice, and causes no obstruction or annoyance during manipulation.

A tentative standard of 5 Dry-Kata, as a minimum, has been adopted for application to such theatres in certain places in the Colonies, in temperature conditions such as occur in our climate.

The results so far obtained in Derby show that the minimum of 5 Dry-Kata is generally reached in winter, when the houses are about full, but that there is much more difficulty in attaining this figure in the warmer months of the year.

Few houses are supplied with an ordinary thermometer as a ready means of temperature control in the warmest parts.

All the regular cinemas of Derby are provided with exhaust fans which seem to function satisfactorily, but which, in many cases, are brought into action at the discretion of the Management. One house is provided with a clock-face indicator in a prominent position, stating that the "fans are now working."

There is no standard in evidence as to the position, area, or number of orifices for the admission of fresh air. It would seem that the architects have designed or altered buildings in many cases without taking into full consideration the question of ventilation for continuous performances.

The provision of permanently open air inlets is very variable, no two buildings are alike, and some halls have no such inlets.

Most halls depend to a great degree on the natural ventilation through entrances and exits, which are generally closed, and on certain accessory doors, windows or grids which can be opened, for supplying fresh air to cover the deficiency in permanent openings.

The practice of flushing the building with fresh air by opening all apertures at the time of repetition of programme is rarely adopted.

It has been demonstrated in every case that the ventilation is better towards the front of a large hall, near the stage, becomes worse at the back, under the balcony, and is worst at the back of the balcony, both in winter and summer—unless special means have been adopted for removing the vitiated air which tends to lodge in the dead space at the back angles of a balcony and such means are applied.

Small agitator fans are installed in some houses, and generally in places where air movement is defective.

These are brought into action at the discretion of the Management, probably to remove tobacco fumes. They are not always well placed, and in most cases are too small for the purpose of maintaining local air movement.

The ventilation would appear to be more efficient in all the halls in winter, as compared with warm weather conditions, and this is to be explained by the more rapid flow of cool air through doors, passages and ventilators into the warm building, but, at the same time, is accompanied by draughts in certain parts.

Better ventilation could be secured in the majority of cinemas with the existing plant and inlets, if the Managements took the necessary steps to ensure continuous and efficient action of fans, and the reasonable opening of inlets; but in others, efficient ventilation cannot be achieved under conditions of continuous crowding unless further provision of permanently open inlets is made, with or without increased fan power.

In five cinemas, windows are provided and used for the admission of light and air during cleaning operations and until programmes

begin. This has a distinct benefit from the point of view of the public health when scrupulously carried out.

The cleanliness noted, and means of cleansing employed seems to be satisfactory in nearly all cases.

The use of a "Kildust" prior to dry sweeping, and the careful use of disinfectant, with the regular application of vacuum cleaners for all upholstery and carpets are commended.

The position of the front seats in certain cinemas is so close to the projection screen as to be likely to lead to eye-strain, especially in children and adolescents who spend many hours at such performances.

RECOMMENDATIONS.

Following the investigation detailed herewith, in view of the large concourse of people who crowd the cinema halls of Derby, especially on Saturdays, and of the large number of children and adolescents who frequent these places of amusement and whose health might be affected if the ventilation were defective, it is recommended :—

(1) That efficient extraction fans be kept continuously at work during the performance.

(2) That an automatic indicator, such as a coloured light, be fixed in a prominent position in the building, to indicate when the fans are working.

(3) That adequate inlet openings shall be provided and kept open in such situations as will permit of uniform distribution of fresh air, and that some such, where not provided, should be placed behind the hot water radiators on the side walls, if the structure of the building allows.

(4) That the flushing of the building with fresh air by the opening of all doors, etc. at the times of repetition is desirable, and should be established, where not in practice.

(5) That accessory means for maintaining air movement in balcony corners, etc. by means of moderately rotating agitator fans, suitably placed, is desirable.

(6) That all staircases leading to balconies should be efficiently ventilated.

(7) That such a standard of ventilation be prescribed as would be indicated by a minimum Dry Kata reading of 5.0 provided that, in exceptional weather, in no case shall this reading be required to be higher than 1.5 below that obtained outside, in the immediate vicinity of the theatre.

(8) That every house be provided with thermometers, placed on the back wall of the auditorium, and on the back wall of the balcony, respectively.

(9) That the maximum possible introduction of light and fresh air is desirable during cleaning operations, and that such cleansing should be as dustless as possible.

(10) That no new cinema hall be constructed without provision of windows of adequate size and made to open, in order to allow the admission of sunlight and fresh air during the day.

(11) That, as far as possible, the space allowed per person should be a minimum of 120 cubic feet.

(12) That, where the distance from the centre of the projection screen to the eye of an observer in the front row of seats is less than 18 feet, such interval might be adjusted by altering the position of the screen.

In certain cases, where the screen cannot be adjusted to such a minimum, the removal of the front row of seats would reduce the chance of eye-strain to individuals, and, at the same time, increase the air space allowed per person so as to approximate to the above standard.

(13) That any defects in fans or other means of ventilation should be reported immediately to the managers, and a book be

provided in which records are kept stating the nature of such defects, when discovered, what steps taken to effect the necessary repairs, etc. Such records to be available for inspection by the Justices on application for the renewal of the licence.

(14) That the practice of occasional inspection, and of taking records of the temperature in the auditorium, the condition of the atmosphere and Kata thermometer observations, is desirable for the maintenance of efficient ventilation and comfort, especially on crowded nights.

I am indebted to the Borough Architect for the figures dealing with the dimensions of these cinemas, and I wish to tender my thanks to the Managers of the various houses visited for affording me information and every facility for conducting observations.

WILLIAM E. HAIGH, F.R.C.S, D.P.H.,

Assistant Medical Officer of Health.

August, 1929

